

# Audit Report



## SPARE PARTS AND LOGISTICS SUPPORT PROCURED ON A VIRTUAL PRIME VENDOR CONTRACT

Report No. D-2000-098

June 14, 2000

This special version of the Report has been revised  
to omit data considered "Hamilton Sundstrand Proprietary."

Office of the Inspector General  
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Inspector General, Department of Defense  
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### **Acronyms**

DCMC	Defense Contract Management Command
DISC	Defense Industrial Supply Center
DLA	Defense Logistics Agency
DSCC	Defense Supply Center Columbus
DSCR	Defense Supply Center Richmond
DVD	Direct Vendor Delivery
FAR	Federal Acquisition Regulation
GPRA	Government Performance and Results Act
NADEP	Naval Aviation Depot
NSN	National Stock Number
VPV	Virtual Prime Vendor



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-2885

June 16, 2000

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,  
TECHNOLOGY, AND LOGISTICS  
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL  
MANAGEMENT AND COMPTROLLER)  
DIRECTOR, DEFENSE LOGISTIC AGENCY

SUBJECT: Audit Report on Spare Parts and Logistics Support Procured on a Virtual Prime  
Vendor Contract (Report No. D-2000-098)

We are providing this redacted audit report for public release. This report is one in a series involving pricing of commercial and noncommercial spare parts. We considered comments from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics; the Air Force; and the Defense Logistics Agency in preparing the final report.

Comments on the draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved recommendations. Therefore, no additional comments are required.

We provided the For Official Use Only version of the report to Hamilton Sundstrand for its comments on information that could be company confidential or proprietary. Hamilton Sundstrand provided us with a version of the report containing its suggested redactions, and that input was considered in preparing this public version of the report.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Terry L. McKinney at (703) 604-9288 (DSN 664-9288) or Mr. Henry F. Kleinknecht at (703) 604-9324 (DSN 664-9324). See Appendix J for the report distribution. The audit team members are listed inside the back cover.

A handwritten signature in black ink, reading "Robert J. Lieberman", is positioned above the typed name.

Robert J. Lieberman  
Assistant Inspector General  
for Auditing

## Office of the Inspector General, DoD

Report No. D-2000-098  
(Project No. 8CF-1003.01)

June 16, 2000

### Spare Parts and Logistics Support Procured on a Virtual Prime Vendor Contract

#### Executive Summary

**Introduction.** This report is one in a series involving the pricing of commercial and noncommercial spare parts. This report addresses spare parts procured from United Technologies Corporation, Hamilton Standard Division, under the Defense Logistics Agency (DLA) virtual prime vendor program. The virtual prime vendor program is a prototype strategy for providing the "commercial practice" of third party logistics support. During CY 1998, DLA issued 6,528 contract actions totaling \$19.0 million to Hamilton Standard on the virtual prime vendor contract SPO400-96-D-9426. The Defense Supply Center, Richmond, Virginia, awarded and managed the indefinite quantity contract. DLA uses the contract to provide worldwide support for Air Force and Navy service centers to support parts common to the C130, P-3, and E2/C2 aircraft propeller systems. We reviewed a total of 4,036 actions valued at \$18.0 million. A total of 85 different parts were procured on the 4,036 actions, therefore, many actions were for the same national stock numbers. More than \$12 million of the parts procured on the contract supported the maintenance line at the Warner Robins Air Logistics Center, Robins, Georgia, for the C130 aircraft propeller system. Some of the significant parts purchased from the contract included propeller barrels and blades, cams, gears, and seals. On June 10, 1999, United Technologies Corporation acquired Sundstrand Corporation and merged it with its Hamilton Standard division creating a new company, Hamilton Sundstrand.

**Audit Objectives.** The primary audit objective was to determine whether DLA obtained the best value for its customers using a virtual prime vendor contract to procure spare parts and logistics support from Hamilton Standard.

**Audit Results.** We found that the DLA virtual prime vendor contract with Hamilton Standard was not the most economical and effective purchasing strategy to obtain spare parts and logistics support.

DLA customers paid about \$■ million, or ■ percent, more than necessary. DLA can also make better use of \$5.1 million of surge funding (warstopper and industrial readiness investment) provided to Hamilton Standard. We calculated that Warner Robins can reduce costs of the parts by at least \$17.1 million for FYs 2001 through 2006 procuring reparable parts using a different type contract. We calculated that DLA and Air Force can reduce costs for their customers by at least \$29.4 million

**Darkened areas of this report represent data that is considered  
Hamilton Sundstrand proprietary.**

(includes Warner Robins savings) during FYs 2001 through 2006 by jointly negotiating a strategic supplier alliance with Hamilton Sundstrand that uses a tailored purchasing strategy.

**Summary of Recommendations.** We recommend that the Commander, Defense Supply Center Richmond, recover surge end items and related funding from Hamilton Sundstrand; and require contracting officers to negotiate fair and reasonable prices for purchased parts that are based on economic order quantities. Contracting officers also need to determine the most economical and effective means to contract for purchased parts and use competitive breakout procedures when appropriate. We recommend that the Commander, Warner Robins Air Logistics Center, require contracting officers to negotiate prices for reparable parts that do not exceed the fair and reasonable prices identified in the report. We recommend that the Deputy Under Secretary of Defense (Acquisition Reform); the Director, DLA; and the Commander, Warner Robins Air Logistics Center establish a team to negotiate a strategic alliance with Hamilton Sundstrand modeled after the prospective Honeywell (formerly AlliedSignal) strategic alliance. DLA is pursuing agency-wide terms and conditions for corporate contracts with Honeywell. This more efficient purchasing strategy will result in reductions in the cost of spare parts, decreased response times, and more accurate forecasting.

**Management Comments.** The Deputy Under Secretary of Defense (Acquisition Reform) and the Principal Assistant Deputy Under Secretary of Defense (Logistics and Materiel Readiness) provided joint comments. The comments stated that, because the report did not identify before and after service levels, a conclusion could not be reached that the contract was not the most economical and effective purchasing strategy to obtain spare parts. Management also commented that the report failed to recognize the improvement in parts availability and delivery times, the positive economic impact of capital assets availability, and improvement in other critically relevant factors. Nevertheless, the joint comments agreed that DLA should pursue a strategic supplier alliance with Hamilton Sundstrand of the type now being pursued with Honeywell.

The Air Force concurred with the recommendations and is working on establishing an integrated process team to develop a strategic alliance with Hamilton Sundstrand.

The Director, DLA commented that the VPV contract was a prototype effort to help move the Agency and DoD from a traditional parts management business to a more integrated logistics support structure. As with any prototype effort, not every aspect of the program had been a success. However, within the context of the current acquisition reform and logistics environment, DLA analysis had shown improved parts availability, zero return due to quality, elimination of most local procurement buy-arounds, increased maintenance production, and enhanced customer-vendor communication. The Director agreed to review contractor purchased material utilizing surge funding and instituted an outlier management program that addresses parts pricing abnormalities. The Director also agreed that DLA should pursue a strategic supplier alliance with Hamilton Sundstrand. See the finding for a complete discussion of management comments and our response, and the Management Comments section for the complete text of management comments.

**Audit Response.** We stand by the finding. We did not perform a before and after evaluation because the model for the strategic supplier alliance with Honeywell offered a better alternative than either the old DLA procurement strategy of procuring items for the depot or the VPV contract.

Although there are some disagreements on the effectiveness of the VPV contract, there is consensus that a strategic supplier alliance with Hamilton Sundstrand modeled after the prospective Honeywell alliance would be the best future business strategy for DoD. Therefore, we consider the management comments to be responsive and no further comments are required.

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## Background

**Spare Parts Audits.** This report is one in a series involving prices paid for commercial and noncommercial spare parts. This report addresses spare parts procured from United Technologies, Hamilton Standard Division under the DLA virtual prime vendor (VPV) program. The virtual prime vendor program is the "commercial practice" of providing third party logistics support. During CY 1998, DLA issued 6,528 actions totaling \$19.0 million to Hamilton Standard on VPV contract SPO400-96-D-9426. The Defense Supply Center Richmond (DSCR) awarded and managed the indefinite quantity VPV contract. DLA uses the contract to provide worldwide support for Air Force and Navy service centers supporting the C130, P-3, and E2/C2 aircraft propeller systems. We reviewed a total of 4,036 contract actions valued at \$18.0 million. A total of 85 different parts (national stock numbers [NSNs]) were procured on the 4,036 actions, therefore many actions were for the same NSNs. More than \$12 million of the parts procured on the contract supported the maintenance line at the Warner Robins Air Logistics Center, Robins, Georgia, (Warner Robins) for the C130 aircraft propeller system. Some of the significant parts purchased from the contract included propeller barrels and blades, cams, gears, and seals. On June 10, 1999, United Technologies Corporation acquired Sundstrand Corporation and merged it with its Hamilton Standard Division creating a new company, Hamilton Sundstrand.

**Adapting Commercial Practices - Prime Vendor Program.** In 1993, DLA began shifting over to a new business and management practice called the prime vendor program. The conceptual goal of the prime vendor program was to improve logistics support to the service depot maintenance facilities and/or weapon systems programs at a lower cost by streamlining the logistics pipeline. The prime vendor process takes full advantage of the private sector distribution capabilities and electronic data processing. A single vendor (the prime vendor) buys inventory from a variety of suppliers and the inventory is stored in commercial warehouses. The customer orders supplies from the prime vendor using the electronic ordering systems. The supplier then ships directly to the DoD customer as needed. This process was intended to reduce delivery time to the customer and overall costs for storing, managing, and distributing spare parts. By using a single source of supply, the prime vendor program was intended to provide a more cost-effective method of procuring spare parts than the current procurement process.

**Virtual Prime Vendor Program.** DLA then developed a new "paradigm" called virtual prime vendor contracting. The VPV approach is a prototype strategy that supports the larger business strategies of integrated supply chain management and commercial practices. For DoD weapon systems, integrated supply chain management is not a proven concept. DLA tested the VPV

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approach to help move from the traditional parts management business to a more sophisticated integrated logistics support business.

The VPV was designed to:

- prove the viability of applying integrated supply chain management concepts to DoD weapon system platforms;
- transfer some key Government processes such as forecasting, inventory control and shipping to the VPV contractor;
- provide total logistical support across traditional commodity/product lines by using state-of-the-art commercial business solutions;
- draw on a virtual inventory of vendors and depot stock; and
- provide for national defense readiness and emergencies.

The benefits that the VPV was designed to achieve included reduced inventory, faster delivery, direct visibility and access to commercial assets, reduced customer downtime for items awaiting out-of-stock parts, and improved readiness with no increase in user costs of the parts. Appendix C, "DLA Virtual Prime Vendor Program," provides excerpts from comments and documentation provided by management regarding the virtual prime vendor program.

## Objectives

The primary audit objective was to determine whether DLA obtained the best value for its customers when procuring spare parts and logistics support from Hamilton Standard under the virtual prime vendor program. See Appendix A for a discussion of the audit scope and methodology, and see Appendix B for prior audit coverage related to the audit objectives.

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## **The Hamilton Standard Virtual Prime Vendor Contract**

The DLA virtual prime vendor contract with Hamilton Standard was not the most economical and effective purchasing strategy to obtain spare parts and logistics support. This condition existed because:

- Hamilton Standard's dealer (used to procure, manage, and stock purchased parts) did not always obtain the best available prices or procure economic order quantities;
- the parts procured were primarily military specific, so there was no virtual inventory of commercial assets and depot stock to either satisfy DLA logistics response time goals or effectively reduce Government inventory, or improve National Defense readiness; and
- Warner Robins used the VPV contract to buy Air Force-managed reparable parts for wholesale inventory and continued to charge redundant management fees for logistics support.

As a result, DLA did not achieve the desired goals and benefits of improving logistics response times, reducing DoD inventory, improving Defense readiness, and reducing overall costs. DLA can put \$5.1 million of surge funding, provided to Hamilton Standard for parts the contractor considers commercial, to a better use. We calculate that DLA and Warner Robins can jointly reduce user costs by at least \$29.4 million and lower logistics support costs from 52.9 percent to 14.9 percent for FYs 2001 through 2006 using a tailored purchasing strategy. The Director, DLA, and the Deputy Under Secretary of Defense (Acquisition Reform) have chartered a DoD/industry rapid improvement team that has developed a tailored purchasing strategy that offers a better alternative.

## **Laws on Competition and Economic Order Quantities**

**Competition in Contracts Act.** Section 2304, title 10, United States Code, (10 U.S.C. 2304) provides generally that the head of an agency, in procuring property and services, shall obtain full and open competition through the use of competitive procedures, or a combination of procedures, that is best suited under the circumstances. The law provides specific exceptions that would allow noncompetitive procedures, such as preservation of the industrial base, lack of alternative sources, or unusual and compelling urgency. These statutory requirements are implemented in the Federal Acquisition Regulation (FAR) and agency supplements to the FAR.

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**Economic Order Quantities.** Section 2384a, title 10, United States Code (10 U.S.C. 2384a). "Supplies: economic order quantities," provides guidance on procuring items in economic order quantities.

(a)(1) An agency referred to in section 2303(a) of this title shall procure supplies in such quantity as (A) will result in the total cost and unit cost most advantageous to the United States, where practicable, and (B) does not exceed the quantity reasonably expected to be required by the agency.

(2) The Secretary of Defense shall take paragraph (1) into account in approving rates of obligation of appropriations under section 2204 of this title.

(b) Each solicitation for contract for supplies shall, if practicable, include a provision inviting each offeror responding to the solicitation to state an opinion on whether the quantity of supplies proposed to be procured is economically advantageous to the United States and, if applicable, to recommend a quantity or quantities which would be more economically advantageous to the United States. Each such recommendation shall include a quotation of the total price and the unit price for supplies procured in each recommended quantity.

## **VPV Program**

**Industry Model.** The VPV program was an initiative undertaken by DLA to capitalize on the total supply chain management and integrated logistics efforts currently being demonstrated in private industry. The VPV was a third party commercial vendor who functioned as both supply and distribution manager on behalf of DLA customers. As the single source of supply, the VPV was responsible for arranging for receipt, storage as necessary, and packaging and transportation of specified parts from suppliers to DLA customers. Hamilton Standard, the VPV, managed and stocked parts that it manufactured and used a dealer, Derco Aerospace (Derco) to manage and stock most "purchased parts" not manufactured by Hamilton Standard.

**Consumable and Repairable Parts.** The VPV contract was used to purchase both consumable and repairable parts. DLA had overall management responsibility for wholesale level consumable parts, but Warner Robins had overall management responsibility for wholesale level repairable parts purchased on the VPV contract, which totaled more than \$9 million. Warner Robins was also the largest customer on the VPV contract for consumable parts, more than \$3.3 million. In terms of dollars, Hamilton Standard and Derco each managed about half of the consumable parts. Hamilton Standard generally managed the Warner Robins repairable parts. For our review, we have classified parts in

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three groups, the Warner Robins reparable parts (Warner Robins), the Hamilton Standard manufactured parts (Hamilton Standard), and the purchased parts managed by Derco (Derco).

## **VPV Prices for Spare Parts and Logistics Support**

**VPV Contract Prices.** VPV contract prices for the Warner Robins and Hamilton Standard parts we reviewed were in line with fair and reasonable prices when costs associated with the logistics support provided by Hamilton Standard (wholesale level) were considered.

User cost for the 8 Warner Robins parts was [REDACTED] percent higher on the VPV contract than cost-based prices while the 28 Hamilton Standard parts were [REDACTED] percent higher. The June 2, 1997, contract negotiation memorandum showed that VPV contract prices included a [REDACTED] percent management fee for logistic support for Hamilton Standard to provide administration, warehousing, handling, and transportation services associated with managing the parts. See Appendix D, "Comparison of VPV Contract Prices with Cost-Based Prices for Warner Robins Reparable Parts," and Appendix E, "Comparison of VPV Contract Prices with Cost-Based Prices for Hamilton Standard Parts," for details.

For the 49 parts managed by Derco, user cost was [REDACTED] percent higher on the VPV contract than previous breakout prices, cost-based Hamilton Standard prices, or Derco purchase order prices. Defense Supply Center Richmond (DSCR) officials stated that the Derco-managed parts included a [REDACTED] percent management fee for logistics support. The additional logistics support services provided by Derco did not warrant these higher prices. See Appendix F, "Comparison of VPV Contract Prices with Better Prices for Derco Parts," for details.

Table 1 shows a comparison of the VPV contract prices with either the cost-based prices for Hamilton Standard manufactured parts or the better purchased part prices (breakout, Hamilton Standard, or Derco purchase order) for parts managed and purchased by Derco.

**Table 1. Comparison of VPV Contract Prices With  
Cost-Based or Purchased Part Prices**

<u>Managed By</u>	<u>Number of Parts</u>	<u>Total VPV Amount (1999 Price)<sup>1</sup></u>	<u>VPV Price with Cost Recovery Rate<sup>2</sup></u>	<u>Cost-Based or Purchased Part Prices</u>	<u>Cost-Based or Purchased Part Prices w/ Cost Recovery Rate<sup>3</sup></u>	<u>Dollar Difference</u>	<u>Percent Difference</u>
Warner Robins	8	\$8,970,701	\$8,970,701	\$████████	\$████████	\$████████	████████
Hamilton Standard	28	4,318,570	4,620,870	████████	████████	████████	████████
Derco	49	4,376,778	4,683,152	████████	████████	████████	████████
<b>Total</b>	<b>85</b>	<b>\$17,666,049</b>	<b>\$18,274,723</b>	<b>\$████████</b>	<b>\$████████</b>	<b>\$████████</b>	

<sup>1</sup>Includes Hamilton Standard and Derco wholesale level management fees for logistics support. Total VPV amount is based upon actual quantities purchased in 1998 with 1999 VPV contract prices.

<sup>2</sup> The DLA VPV cost recovery rate of 7 percent is applied to the VPV price; however, the 7 percent DLA rate is not applied to the Warner Robins items because DLA designated Warner Robins as an ordering entity.

<sup>3</sup>The Air Force cost recovery rate of 20 percent is applied to the Warner Robins items. The DLA cost recover rate for FY 1999 is 30.6 percent, which is applied to the cost-based/purchased part prices for the Hamilton Standard and Derco items.

## Purchased Parts Managed by Derco

**Derco Parts.** Derco did not always obtain the best available prices or procure economic order quantities of purchased parts. For the 49 parts we reviewed that were managed by Derco, the VPV prices were 109.4 percent or \$2.3 million higher than our comparison prices (Appendix F). User cost of the parts was 71.6 percent or \$1.9 million higher.

**Incentive to Obtain Best Prices.** Derco lacked the necessary incentive and motivation to obtain the best prices from its suppliers for the spare parts on the VPV contract. Derco procured the parts from various suppliers, including suppliers that had previously sold the parts directly to DoD, for resale to DoD after a Derco/Hamilton Standard mark-up had been applied. DSCR officials indicated that the agreed upon mark-up for the wholesale level support provided by Derco was █████ percent. However, we found that Derco did not have sufficient incentive to obtain the best prices for DoD.

For example, four different parts had previously been procured from two different suppliers, both suppliers manufactured the parts and were approved sources. Source A was approved by Hamilton Standard, while Source B was approved by DoD but had not been approved by Hamilton Standard. The approved source used by Derco (Source A) sold the parts at a higher price and failed to offer any quantity discounts. Source B, previously used by DoD, offered lower prices and quantity discounts. However, when the parts were procured from Source A, the VPV mark-up that Derco/Hamilton Standard received was [REDACTED]; while had the same parts been procured from Source B, the VPV mark-up would have been only \$[REDACTED], a difference of \$[REDACTED]. The total price to DoD for the parts from Source A was \$279,336, while the total price from Source B would have been only \$112,550, a difference of \$166,786 or 148.2 percent.

Table 2 shows that DoD could have saved \$166,786 had the four parts been procured from Source B; however, Derco would have lost [REDACTED] (additional mark-up) had the parts been purchased from that source.

**Table 2. As Purchased Parts Prices Decrease so does Derco's Mark-Up**

Part	Order Qty (1998)	1999 VPV Prices		Source "A"		VPV Mark-Up	
		Unit Price	Total Price	Unit Cost	Total Price	Amount	Percent
D13	324	\$248.00	\$ 80,352	[REDACTED]	\$ [REDACTED]	[REDACTED]	[REDACTED]
D16	301	248.00	74,648	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
D11	392	240.00	94,080	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
D30	122	248.00	30,256	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Source A			\$279,336		[REDACTED]	[REDACTED]	[REDACTED]
Part	Order Qty (1998)	Potential VPV Price		Source "B"		VPV Mark-Up	
		Unit Price	Total Price	Unit Cost	Total Price	Amount	Percent
D13	324	\$109.79	\$ 35,572	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
D16	301	99.15	29,844	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
D11	392	87.26	34,206	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
D30	122	105.97	12,928	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Source B			\$112,550		[REDACTED]	[REDACTED]	[REDACTED]
Difference			\$166,786			[REDACTED]	

**Economic Order Quantities.** Derco failed to base VPV contract prices on economic order quantities. For example, the 1999 VPV unit price for part D10,

a "torque retainer lug," was \$294.40. That price was based on a Derco purchase order quantity of 40, at a cost of [REDACTED] with a [REDACTED] percent mark-up. However, Derco subsequently issued purchase orders for significantly larger quantities of the item. When the larger quantities of 310 and 500 parts were purchased, Derco's unit costs dropped to [REDACTED] and [REDACTED], respectively.

Table 3 shows that the VPV unit prices were [REDACTED] and [REDACTED] percent higher than prices based on economic order quantities.

**Table 3. Derco Did Not Base VPV Prices on Economic Order Quantities (Part D10)**

1998 Order Quantity	1999 VPV Prices		Derco Purchased Parts Orders		Burdened Prices		VPV Prices Based on Economic Order Qty.	
	Unit Price	Total Price	Qty.	Unit Cost	Mark-up Factor	Unit Price	Total Price (1998 Qty.)	Percent Difference
348	\$294.40	\$102,451	40	[REDACTED]	[REDACTED]	\$294.40	\$102,451	[REDACTED]
			310	[REDACTED]	[REDACTED]	174.40	60,691	[REDACTED]
			500	[REDACTED]	[REDACTED]	122.40	42,595	[REDACTED]

Derco also failed to procure minimum economic order quantities and stock parts when significant savings could be achieved. For example, the 1999 VPV unit price for our review item number D41, a "yoke-linkage," was \$2,000. As of March 10, 1999, 6 units had been ordered on the VPV contract at the \$2,000 price. However, both Derco and Hamilton Standard had long-term price agreements with the supplier based on minimum order quantities. Derco could purchase 25 units for a total cost of [REDACTED] while Hamilton Standard could purchase 20 units for a total cost of [REDACTED]. This equates to unit prices of [REDACTED] and [REDACTED] for Derco and Hamilton Standard respectively. We found no justification for the \$2,000 VPV unit price.



Table 4 shows that VPV prices were not based on minimum economic order quantities.

**Table 4. VPV Prices Were Not Based on Minimum Economic Order Quantities (Part D41)**

Order Qty (1999)	1999 VPV Price			Burdened Prices			VPV Prices Based Order Quantities	
	Unit Price	Total Price	Qty.	Unit Cost	Mark-up Factor	Unit Price	Total Price (1999 Qty.)	Percent Difference
6	\$2,000	\$12,000	2			\$1,424.00	\$8,544	40.4
			6			672.00	4,032	197.6
			25 <sup>1</sup>			272.00	1,632	635.2
			20 <sup>2</sup>			49.22	295	3,967.8

<sup>1</sup>Derco long-term price agreement with supplier based on economic order quantity of 25.

<sup>2</sup>Hamilton Standard long-term price agreement with supplier based on economic order quantity of 20.

DSCR needs to negotiate prices for purchased parts that are fair and reasonable and based on economic order quantities, and to determine the most economical and effective means to contract for these parts including using competitive breakout procedures when appropriate.

## Military Specific Parts

**Virtual Inventory of Commercial Assets.** Parts procured on the VPV contract were primarily military specific and there was no one single virtual inventory of commercial assets and depot stock. In fact, there were 12 different contractor and DoD inventory systems, and neither the contractor nor DoD representatives had access to all systems. Contractor representatives had access to a greater number of systems (8) than DoD representatives had. See Appendix G, "Multiple Inventory Systems," for a summary of the different inventory systems. The absence of this virtual inventory of commercial assets created problems with the successful implementation of the VPV program.

**Primary Customer.** The primary customer for the VPV contract was the Warner Robins C130 aircraft propeller shop. Over 2,000 C130 aircraft were purchased for military use by either DoD or foreign countries. In contrast, only 113 C130 aircraft were purchased for commercial use and only 41 are currently

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registered with the Federal Aviation Administration. The L382/L100 aircraft is the commercial version of the C130 aircraft sold by Lockheed Martin Aeronautical Systems. According to the Federal Aviation Administration statistics, there were only 21 L382/L100 aircraft in operation.

**Limited Commercial Sales.** The VPV contract was awarded for the procurement of commercial spare parts for the C130 aircraft propeller system; however, our review found that the parts had little commercial application. Sales outside DoD were primarily related to foreign military sales. Although ■ percent of sales were made to the commercial customers, we found that the end user of the finished products was most frequently a military repair or overhaul program.

We reviewed commercial sales data for Hamilton Standard and Derco Aerospace during calendar years 1998 for 66 NSNs that were judgmentally selected. The commercial sales data for Hamilton Standard showed that ■ percent of its total sales in 1998 were to its dealer, Derco. The commercial sales data for Derco showed that DoD was its primary customer and other so-called commercial customers were primarily foreign military sales.

**Commercial Item Designation.** Hamilton Standard has taken the position that the sole-source parts procured on the VPV contract should be considered "commercial items" and are, therefore, exempt from cost or pricing data. We strongly disagree.

## **Logistics Response Time**

**Logistics Response Time Goals.** Parts procured on the VPV contract did not meet logistics response time goals for either DLA inventory control points or planned direct vendor deliveries (DVD). As a result, savings associated with reduced customer downtime related to out-of-stock parts were not achieved. DLA has established logistics response time goals for the inventory control points as of February 1998, 1999, and 2000 at 30 days, 24 days, and 18 days, respectively. The DLA logistics response time goal for DVD was 20 days.

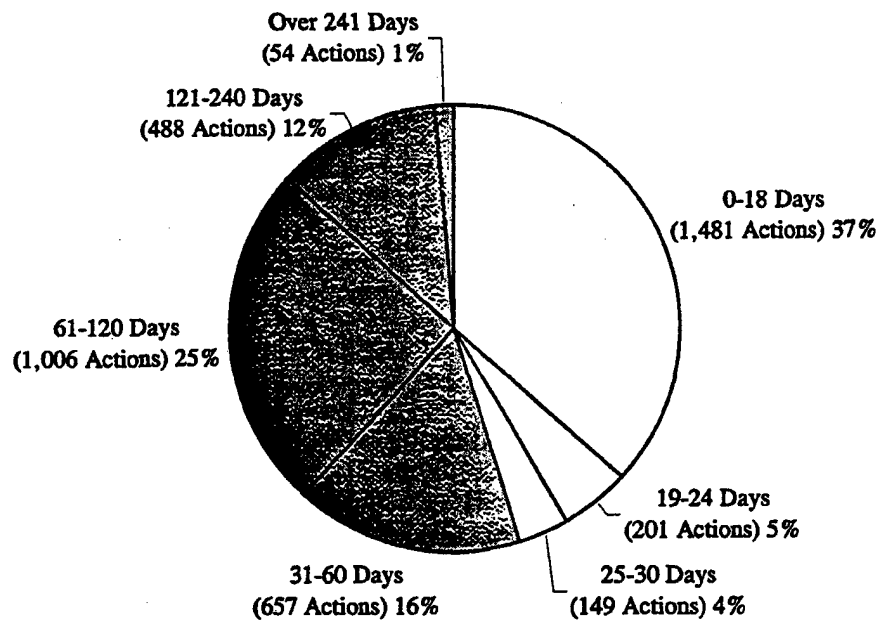
**VPV Logistics Response Time.** Deliveries of parts purchased on the VPV contract were not meeting DLA logistics response time goals. For the 85 parts in our review, the time from contractor receipt of orders to shipping of the orders averaged ■ days. The median for all the orders placed was ■ days.

Table 5 shows that neither Hamilton Standard nor Derco met DLA logistics response time goals. It should be noted that Warner Robins procured large quantities of parts for wholesale level inventory that impacted the VPV's ability to meet logistics response times. However, the VPV also failed to meet DLA logistics response time goals for the Hamilton Standard and Derco parts.

**Table 5. Hamilton Standard and Derco Logistics Response Times**

	No. of <u>Parts</u>	<u>Issues</u>	<u>Goal</u>	<u>Days To Ship</u>	
				<u>Average</u>	<u>Median</u>
Warner Robins	8	180	20	■	■
Hamilton Standard	28	1,267	20	■	■
Derco	49	2,589	20	■	■
Overall	85	4036	20	■	■

Figure 1 shows the days from receipt of an order to the ship date for all 4,036 contract actions for the 85 parts reviewed. (For 398 actions [9.9 percent] that had not been initiated at the time of our review, the date of March 10, 1999 was inserted as the ship date. March 10, 1999 was the latest order or ship date in the contractor data.)



**Figure 1. Less Than Half the Orders Were Shipped Within 30 Days**

**Issue Effectiveness for the C130 Propeller Shop.** Issue effectiveness is the measurement of whether a part is in inventory when needed by the service center. In May 1996, Warner Robins implemented the Depot Repair Enhancement Program (the program) to evaluate current depot effectiveness and resource status, highlight specific problem areas, and discuss ways to improve the depot repair process. The program placed the accountability and authority for depot component repairs with a single person known as the "fixer," who is responsible for the hands-on, depot maintenance, component repair work done on the shop floor. A team consisting of a resource advisor and individuals from the shop service center, material management, contracting, and other functional areas of expertise, assist the fixer. As a result of the program, personnel at Warner Robins reported a significant improvement in their issue effectiveness. Although Warner Robins could not determine exactly what impact the program and the VPV contract had on issue effectiveness, both VPV and non-VPV parts were achieving the same success. In fact, from February through May 1999, the issue effectiveness for VPV and non-VPV parts was practically identical. Accordingly, the VPV contract had no impact on improving Warner Robins operations. Table 6 shows an issue effectiveness comparison of VPV and non-VPV parts for February to May 1999.

**Table 6. VPV and Non-VPV Issue Effectiveness at the Warner Robins C130 Propeller Shop was Consistent**

<u>1999</u> <u>Month</u>	<u>VPV</u>			<u>Non-VPV</u>		
	<u>Demand</u>	<u>Issued</u>	<u>Percent</u>	<u>Demand</u>	<u>Issued</u>	<u>Percent</u>
February	587	573	97.6	496	473	95.4
March	673	627	93.2	649	597	92.0
April	772	708	91.7	637	612	96.1
May	725	663	91.4	593	536	90.4
<b>Total</b>	<b>2,757</b>	<b>2,571</b>	<b>93.3</b>	<b>2,375</b>	<b>2,218</b>	<b>93.3</b>

Issue effectiveness figures were provided by the Warner Robins C130 Propeller Shop.

## Government Inventory

**Goals to Reduce Inventory.** The VPV contract had not effectively reduced Government inventory or improved National Defense readiness. The DLA goal for the VPV contract was to operate a process-wide paperless system that eliminated inventory redundancies, simplified procedures, and provided on-demand supply support. The VPV was supposed to draw on a virtual inventory of its own stock, other vendor's inventories, DLA corporate level contracts, DLA prime vendors and depot stock. DLA was expected to benefit from the VPV by having direct visibility and access to commercial assets. Inventory

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investment reductions planned by DLA as a result of these business practice changes were: \$6.0 million, DLA; \$2.3 million Air Force; and \$2 million Navy and Marine Corps. It should be noted that Warner Robins (Air Force) never intended to reduce wholesale inventory levels. Warner Robins used the VPV contract to order wholesale inventory because it was easier to place the order instead of awarding its own contract.

**Government and Contractor Inventory.** As of April 1999, DoD had a total of \$17,461,648 of Government inventory at the wholesale and retail levels (DoD inventory and surge funding) for the 85 parts reviewed. Surge funding represents DoD funds provided to both Hamilton Standard and Derco to provide parts for Defense readiness that could also be used to fill VPV orders in the event of a spike in demand. The value of the Government inventory was more than 5 times greater than the total value of the contractor inventory (Hamilton Standard and Derco). DoD also had \$9,639,594 (579 parts) of inventory that was transferred to Derco for management and provided an additional \$1,820,205 (504 parts) of surge funding to Hamilton Standard. As a result, total DoD inventory at the wholesale level (DLA, Hamilton Standard, Derco, Warner Robins, and Cherry Point) and retail level (Warner Robins and Cherry Point) totaled \$28,921,447.

Table 7 shows that DoD still has significant Government inventory at both the wholesale and retail levels for VPV contract parts. The total inventory at Warner Robins of \$12,797,160 includes wholesale and retail parts and also parts in the C-130 shop service center.

**Table 7. DoD Had a Significantly Larger Investment In Inventory than the VPV Contractor (as of April 1999)**

<u>Managed By</u>	<u>No. of Parts</u>	<u>Total VPV Amount<sup>1</sup></u>	<u>DoD Inventory</u>	<u>DoD Surge Funding</u>	<u>Contractor Inventory</u>
Warner Robins	8	\$8,980,297	\$12,043,166	\$2,213,085	
Hamilton Standard	28	4,318,570	1,323,482	599,049	
Derco	49	4,376,778	805,283	477,583	
Subtotal	85	\$17,675,645	\$14,171,931 <sup>2</sup>	\$3,289,717	
Other surge parts	57			1,820,205	
Other DoD inventory transferred to Derco	579		9,639,594		
Total		\$17,675,645	\$23,811,525	\$5,109,922	

<sup>1</sup>Total VPV amount represents the 1998 order quantity at the 1999 VPV price.

<sup>2</sup>Warner Robins \$12,797,160; Cherry Point \$763,817; Derco transfer [REDACTED]; and DLA depot \$43,016.

<sup>3</sup>Derco [REDACTED]; Hamilton Standard [REDACTED].

**Surge Funds for National Defense Readiness.** DLA provided Hamilton Standard with surge funding on the VPV contract to purchase surge parts valued at \$5,109,922 (parts related to increasing the production capacity of the C130 propeller shop from one to three work shifts). The basic contract required that the VPV would provide DLA with a list of raw materials, castings, and forgings required for a rotating stock reserve to answer surge requirements, and that DLA would pursue funding.

Contract modification P00001, July 25, 1997, incorporated a surge inventory management plan prepared by Hamilton Standard. The surge plan required that DLA provide Hamilton Standard with \$5.35 million to support the surge capability. The plan identified specific spare parts and quantities to be placed in surge inventory. The plan also provided that the surge stock could be used to fill other VPV orders, or as rotatable stock, as long as the contractor maintained the ability to meet the surge requirements in 45 days as defined in

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the statement of work. At the conclusion of the program, Hamilton Standard was expected to return the surge inventory and/or investment funding to DLA unless a follow-on contract had been awarded.

During the audit, DLA changed its focus on surge by dealing with actual surge situations instead of allowing Hamilton Standard to use the funds to augment contractor inventory. DLA officials also indicated that surge funding would not be appropriate for parts procured by Warner Robins on another contract. Based on those discussions, DLA has started negotiations of a new surge modification with Hamilton Standard. The draft modification requires that the VPV provide the surge quantities and delivery times to the contracting officer. After receiving written approval of the surge requirements, the VPV must assess its own and its supplier base capability to provide the surge parts. After the assessment, the VPV must describe surge strategies for all surge parts. The VPV shall also provide DLA with a list of raw materials, castings, and forgings required as investments to answer any surge requirement that cannot be met through existing commercial inventories. The draft modification also requires that the VPV provide written justification for investments in finished parts with lead-times more than 46 days, and that these parts cannot be accessed for any purpose other than to support a contingency. The VPV has limited access to investments in finished parts with lead-times greater than 71 days. The draft modification also requires that no "further" investments in Military Service-managed parts shall be made. Based on the new surge plan, Hamilton Standard revised the funding necessary to maintain surge inventory to \$[REDACTED].

DLA has also issued its own guidelines on warstopper and industrial readiness investment. Basically, wartime surge and sustainment requirements are to be the basis for all investments and the demand should be high in wartime in relation to peacetime. The investment should focus on expanding, sustaining, or recreating industrial capability and not be directed toward augmenting DLA's peacetime supply operations. See Appendix H, "Warstopper/Industrial Readiness Investment Guidelines," for details.

DLA has established a dangerous precedent by providing surge funding to a contractor to hold Government inventory, particularly for end items the contractor considers commercial. Providing this type of funding to contractors raises many questions about how DoD accounts for Government inventory maintained by the contractor and its appropriate use of the items. In addition, Warner Robins officials have already stated that their reparable items will no longer be procured on the VPV contract.

DLA needs to take immediate action to recover the surge end items from Hamilton Sundstrand and any surge funding not already spent. DLA can put the \$5.1 million of surge funding provided to Hamilton Standard to a better use.

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## **Warner Robins-Managed Repairable Parts**

**Redundant Management Fees.** Warner Robins-managed repairable parts procured on the VPV contract included redundant management fees for wholesale level logistics support. Costs associated with this wholesale level support were included in the VPV prices and also in the management fee applied by Warner Robins. The June 2, 1997, negotiation memorandum, showed that VPV prices reflected the DLA 7.5 percent management fee (later revised to 7.0 percent) and Hamilton Standard's ■ percent management fee for performing the administration, warehousing, handling, and transportation cost associated with managing the assets. In addition, Warner Robins added a 20 percent management fee to manage, stock, and deliver the same parts even though the concept of the VPV program was to order parts on an as-needed basis, using direct vendor delivery.

**Warner Robins Used Price Analysis.** Contracting personnel at Warner Robins were unaware that the VPV prices included the Hamilton Standard management fee because their price analysis had shown that the VPV prices were in line with previous prices. However, overall costs for the Warner Robins repairable parts had decreased and costs associated with the logistics services provided by Hamilton Standard were included in the VPV prices. This illustrates another clear cut example of price analysis as an ineffective negotiating tool.

**Potential Cost Avoidance.** To calculate the potential cost avoidance, we compared the current method of support with two other methods. The first method shows DLA and the VPV providing wholesale level logistics support. The second method shows Warner Robins providing the wholesale level support and procuring the parts on a different contract vehicle. Based on annual demand, we calculated that the current method of support was 20 percent, or \$2,039,181, higher than if DLA managed the parts; and 30 percent, or \$2,848,228, higher than if Warner Robins managed the parts and procured them on another contract.

We calculate that Warner Robins can reduce costs by at least \$17.1 million (\$2,848,228 x 6 years) during FYs 2001 through 2006 by reducing the redundant management fees for wholesale level logistics support.



Table 8 shows the potential cost avoidance by eliminating redundant management fees for wholesale level logistics support and by DLA or Warner Robins using different methods of support.

**Table 8. Warner Robins Items Procured on the VPV Contract Included Redundant Management Fees for Wholesale Level Logistics Support**

<u>Support Options</u>	<u>Acquisition Price*</u>	<u>Management Fees</u>		<u>Total User Price</u>	<u>Difference from Current Method</u>	
		<u>DLA (7%)</u>	<u>Air Force (20%)</u>		<u>Amount</u>	<u>Percent</u>
Current Method VPV	\$9,528,882	\$667,022	\$2,039,181	\$12,235,085		
DLA Managed VPV	9,528,882	667,022		10,195,904	\$2,039,181	20
Warner Robins Contract	7,822,380		1,564,476	9,386,856	2,848,228	30

\* Figures are based upon annual demand and options designated as VPV include Hamilton Standard's percent management fee for wholesale level logistics support.

During the audit, Warner Robins officials stated that the reparable parts would no longer be procured on the VPV contract and had begun the preliminary stages to award a separate cost-based requirements-type contract with Hamilton Standard. Warner Robins officials stated that ongoing negotiations were basically at a deadlock because of the contractor's position that the parts are commercial. Accordingly, the contractor claimed to be under no obligation to provide cost information.

Warner Robins needs to negotiate prices that do not exceed the fair and reasonable prices determined in this report unless Hamilton Sundstrand provides cost or pricing data that supports the higher prices.

### Third Party Logistics Support Costs

The VPV contract did not achieve the desired goals and benefits of reducing overall costs because third party logistics support costs were excessive for the Warner Robins, Hamilton Standard, and Derco parts. Although the VPV contract tried to shift the risk of stocking parts at the wholesale level to the VPV; there was virtually no commercial market for the parts, therefore, the costs associated with the contractor assuming that risk were high. DoD also did not significantly reduce its inventory. The total costs or fees for this wholesale

level logistics support were (as a percentage of the base cost of the parts) [REDACTED] percent [REDACTED] for the Warner Robins parts and [REDACTED] percent [REDACTED] for the Hamilton Standard parts. We used a range for the Derco parts. The low figure was based on the [REDACTED] percent wholesale level logistics support mark-up indicated by DSCR, the high figure was based on our review of the Derco parts that showed a [REDACTED] percent mark-up or difference between the fair and reasonable price. Accordingly, the costs for wholesale level logistics support were between 71.2 percent (\$1,488,122) and 124.1 percent (\$2,593,093). Based on our review, we believe the high end is the more appropriate figure.

Table 9 shows that the total costs for wholesale level logistics support ranged from 31.6 percent to 124.1 percent.

Table 9. Logistics Support Costs Were High					
Description	Fee (Percent)	Warner Robins	Hamilton Standard	Derco	
				Low	High
Base Cost		\$7,293,253	[REDACTED]	[REDACTED]	[REDACTED]
Logistics Support Costs					
Hamilton Standard	[REDACTED]	[REDACTED]	[REDACTED]		
Derco (Low)	[REDACTED]			[REDACTED]	
Derco (High)	[REDACTED]				[REDACTED]
Subtotal		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
DLA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Subtotal		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Warner Robins	[REDACTED]	[REDACTED]			
Total User Price		\$11,518,380	\$4,620,870	\$3,578,181	\$4,683,152
Logistics Support Cost (Percent)		57.9%	[REDACTED]	[REDACTED]	[REDACTED]
Logistics Support Cost (Dollars)		\$4,225,127	\$1,109,837	\$1,488,122	\$2,593,093

## Tailored Purchasing Strategy

**Business Case Analysis of VPV Initiative.** The consulting firm, KPMG, was tasked by DLA to perform a Business Case Analysis of the VPV initiative. KPMG recommended that "If DLA follows its current course of action, and stays the course, the 'Current Program' is a good business decision when compared to past operations." The "Current Program" assumes:

- 
- improving service delivery compared to pre-VPV operations;
  - reducing inventory by more than \$16 million;
  - executing a revised pricing plan that will price all contract parts;
  - improving communication between vendors, DLA and its customers;  
and
  - enhanced contract enforcement.

Although we agree with most of the conclusions reached by KPMG when the VPV initiative was compared to past operations, we don't believe the "one size fits all" purchasing strategy is the most economical and effective. The VPV initiative assumes that the VPV must maintain wholesale level inventory for all parts and pays the VPV for this logistics support for all parts. We believe a more tailored purchasing strategy that pays the contractor to maintain wholesale inventory only when necessary, offers a better alternative than that of the VPV initiative. In addition, the savings associated with the VPV program addressed in the KPMG business case related to reduced inventory (wholesale and retail) and lower inventory holding costs. While we recognize these savings, the exact impact on actual user prices could not be determined.

**Tailored Purchasing Strategy.** The Director, DLA and the Deputy Under Secretary of Defense (Acquisition Reform) have chartered a Rapid Improvement Team for the development of a new DLA/Honeywell (formerly AlliedSignal) strategic alliance relationship. DLA intends to pursue agency-wide terms and conditions and corporate contracts with Honeywell which result in reductions in the cost of spare parts, decreased response times, and more accurate forecasting; combined with more efficient administration.

To achieve these goals, the rapid improvement team has classified spare parts into four different purchasing environments, "build to order, rapid response, replenishment, and catalog." After classifying the parts in the appropriate environments, a tailored purchasing strategy will be used to procure the parts in each environment. See Appendix I, "Purchasing Environments," for details.

The Deputy Under Secretary of Defense (Acquisition Reform) and the Air Force Materiel Command are in the process of chartering a Rapid Improvement Team to develop a similar alliance with Honeywell to test joint contracting for depot maintenance secondary parts.

**Purchasing Environments for VPV Parts.** Using the criteria established by the rapid improvement team, we classified the 85 parts we reviewed into the appropriate purchasing environments. Note that there are 122 parts because 37 parts fell into both the replenishment and the catalog environments. For example, there was one user that had a large regular demand for a part, thus

fitting the replenishment model. But there were also multiple other users purchasing that part in small quantities that place it in the catalog model.

This method of classification showed that the majority of the parts and dollars fell into the replenishment environment (\$15,573,714). The replenishment environment criteria, comprised a few users with relatively stable demand. The purchasing strategy for the replenishment environment dictates that the parts be shipped directly from the manufacturer to the user on an agreed-upon schedule based on forecasted demand. These parts do not require a wholesale operation that stocks the parts and the associated costs. For example, if Warner Robins needs 50 of a certain part every month, there is no added value in having that part shipped from the manufacturer to a wholesaler (either contractor or Government) and then having the wholesaler ship the parts to Warner Robins with the associated wholesaler mark-ups. In contrast, when there are many users of a specific part but the quantities ordered are relatively small, establishing a catalog and using a wholesaler to stock the parts makes better business sense.

Table 10 shows the purchasing environments for the VPV contract parts reviewed.

<b>Table 10. Classification of VPV Parts by Purchasing Environments and Associated Logistics Support Costs</b>							
<u>Item Manager</u>	<u>User(s)</u>	<u>Purchasing Environments</u>					
		<u>Replenishment</u>		<u>Catalog</u>		<u>Rapid Response</u>	
		<u>Parts</u>	<u>Base Cost</u>	<u>Parts</u>	<u>Base Cost</u>	<u>Parts</u>	<u>Base Cost</u>
Warner Robins	Warner Robins	8	\$7,293,253				
Hamilton Standard	Warner Robins	3	1,188,212				
	Cherry Point	9	438,952				
	Other	2	87,333				
	Multiple			12	\$1,678,855	14	\$117,681
Derco (Low)	Warner Robins	16	876,493				
	Cherry Point	7	66,437				
	Other	6	107,820				
	Multiple			28	951,339	17	87,970
<b>Subtotal</b>		<b>51</b>	<b>\$10,058,500</b>	<b>40</b>	<b>\$2,630,194</b>	<b>31</b>	<b>\$205,651</b>
<b>Logistics Support Cost (dollars)</b>			<b>\$ 5,515,214</b>		<b>\$1,208,038</b>		<b>\$ 99,834</b>
<b>Total User Price</b>			<b>\$15,573,714</b>		<b>\$3,838,232</b>		<b>\$305,485</b>
<b>Logistics Support Cost (percent)</b>			<b>54.8</b>		<b>45.9</b>		<b>48.5</b>

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**Role of the Wholesaler.** We contacted the president of a commercial wholesale company in the plumbing supply business to determine how his business operated. The company basically acted as a broker between the manufacturers and the "plumbing wholesalers." Technically, the plumbing wholesalers sell directly to the plumbers or plumbing contractors and more closely resemble a retail operation. The president stated that his company added a 16 percent logistics support fee to the cost of parts when parts were stocked in his warehouse. This fee included all handling (in and out of warehouse), warehouse, holding, shipping, billing, and collection costs. When parts were shipped directly from the manufacturer to the plumbing wholesalers/retailers the company received a 5 percent fee. For the direct ship parts, the manufacturer billed the plumbing wholesaler/retailer and then the manufacturer paid the company the 5 percent fee. We recognize that the logistics support fees charged by this commercial plumbing supply wholesaler do not directly relate to the fees charged by DLA; however, the method of operation and the differences between stocking and direct shipping correlate.

**Potential Cost Avoidance.** We compared the current VPV method of support with the more tailored approach based on the different purchasing environments. The replenishment environment should clearly provide the lowest overall costs to the user because of the reduced level of logistics support required, that is, no wholesale level support. Therefore, for the replenishment environment we used a 10 percent logistics support costs factor. The 10 percent factor was used because there are no longer costs associated with storing parts at the wholesale level and because of the reduced transaction costs associated with requisitioning, shipping, and paying for parts in small quantities. For the catalog environment, we used the 31.7 percent factor currently associated with the VPV contract for DLA and Hamilton Standard to provide this wholesale level support. For the rapid response environment, we use a 40 percent factor associated with DLA managing these higher-risk parts.

Table 11 shows that DLA and Warner Robins can reduce customer costs by \$4,901,205 and lower logistics support costs from 52.9 percent to 14.9 percent, or 38 percent overall. We calculate that DLA and Warner Robins can reduce customers costs by at least \$29.4 million (\$4,901,205 x 6 years) during FYs 2001 through 2006 by using a tailored purchasing strategy.

**Table 11. Potential Cost Avoidance**

<u>Description</u>	<u>Purchasing Environments</u>			<u>Total</u>
	<u>Replenishment</u>	<u>Catalog</u>	<u>Rapid Response</u>	
	<b>Current VPV Method</b>			
Base Cost	\$10,058,500	\$2,630,194	\$205,651	\$12,894,345
Logistics Support Cost (dollars)	5,515,214	1,208,038	99,834	6,823,086
<b>Total User Price</b>	<b>\$15,573,714</b>	<b>\$3,838,232</b>	<b>\$305,485</b>	<b>\$19,717,431</b>
Logistics Support Cost (percent)	54.8	45.9	48.5	52.9
<b>Recommended Purchasing Environment Method</b>				
Base Cost	\$10,058,500	\$2,630,194	\$205,651	\$12,894,345
Logistics Support Cost (dollars)	1,005,850	833,771	82,260	1,921,881
<b>Total User Price</b>	<b>\$11,064,350</b>	<b>\$3,463,965</b>	<b>\$287,911</b>	<b>\$14,816,226</b>
Logistics Support Cost (percent)	10.0	31.7	40.0	14.9
<b>Difference</b>				
<b>Total User Price</b>	<b>\$4,509,364</b>	<b>\$374,267</b>	<b>\$17,574</b>	<b>\$4,901,205</b>

Based on the results of the DLA and Air Force Rapid Improvement Teams with Honeywell, DLA and the Air Force should establish a similar team with participation from the Deputy Under Secretary of Defense (Acquisition Reform) and the Inspector General, DoD, to attempt to develop a similar strategic alliance with Hamilton Sundstrand. The strategic alliance with Hamilton Sundstrand should be modeled after the prospective Honeywell arrangement and result in mutually advantageous pricing, decreased response times, more accurate forecasting, reduced inventory, and decreased administrative costs.

## Summary

The audit showed that there are significant difficulties in developing and testing economical and effective purchasing strategies. Ongoing work, by the DLA/DoD and Air Force/DoD rapid improvement team, General Accounting Office, this office, and other DoD Components should be helpful in determining the best strategies for the future.

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## **Recommendations, Management Comments, and Audit Response**

### **1. We recommend that the Commander, Defense Supply Center Richmond:**

- a. Take immediate action to recover the surge end items from Hamilton Sundstrand and any surge funding not already spent by the contractor.**

**Defense Logistics Agency Comments.** The Defense Logistics Agency partially concurred with the recommendation and initiated an internal audit of contractor purchased material bought with surge funding. Upon audit completion, DLA and the Air Force will determine appropriate material disposition and future surge funding requirements. DLA stated that there is a legitimate need for future agreements with Hamilton Sundstrand to include an ability to surge in national emergencies.

**Under Secretary of Defense for Acquisition, Technology, and Logistics Comments.** The Deputy Under Secretary of Defense (Acquisition Reform) and the Principal Assistant Deputy Under Secretary of Defense (Logistics and Material Readiness) provided unsolicited comments (hereinafter referred to as the joint comments) stating that Government funding of contractor surge under the VPV should be considered as a possible component of the ongoing strategic alliance effort.

**Audit Response.** The Defense Logistics Agency comments were responsive. We feel certain that adjustments to the contractor's surge funding will occur upon completion of the audit. Although we agree that surge funding represents a legitimate need in order to maintain readiness in certain circumstances, we still believe that DLA has established a dangerous precedent by providing surge funding to contractors to merely hold additional inventory. Because surge funding is a relatively new concept, DoD and DLA should be extremely careful to ensure that requirements are valid and that DoD investments are protected and properly accounted for.

- b. Direct contracting officers to negotiate prices for purchased parts that are fair and reasonable, based on economic order quantities, and determine the most economical and effective means to contract for these parts including using competitive breakout procedures when appropriate.**

**Defense Logistics Agency Comments.** The Defense Logistics Agency partially concurred with the recommendation and stated it had instituted an "outlier management program" that addresses parts pricing abnormalities.

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**Under Secretary of Defense for Acquisition, Technology, and Logistics Comments.** The joint comments agreed that contracting officers should negotiate fair and reasonable prices as a fundamental component of all acquisitions. However, the joint comments also stated that in addition to economic order quantities, equally important elements, such as inventory carrying cost and the time value of money, were not considered. The joint comments suggested that the prime contractor under a VPV arrangement assumes the responsibility for economic order quantity determinations based on forecasted demands, lead times, carrying costs, and time value of money. The joint comments agreed that contracting officers should use a variety of purchasing strategies such as direct purchase, competitive re-procurement, corporate contracts, VPV, DVD, and strategic alliances; but objected to the singling out of competitive breakout as an example strategy.

**Air Force Comments.** The Air Force provided unsolicited comments agreeing that prices have not been validated as fair and reasonable; stating however, that price is not the only issue. The contract had improved in terms of delivery and parts availability. Air Force recommends the validation of fair and reasonable pricing with delivery requirements.

**Audit Response.** The Defense Logistics Agency and Air Force comments were responsive. We do not agree with the joint comments that the prime contractor should make the decisions on when to buy economic order quantities. The examples cited in the report were clear cases where procuring the economic order quantity made good business sense for the Government but would also have resulted in reduced profits for the contractor. In regard to competitive breakout, it is just one of the purchasing strategies that needs to be considered.

2. We recommend that the Commander, Warner Robins Air Logistics Center direct contracting officers to negotiate prices for reparable parts that do not exceed the fair and reasonable prices determined in this report unless Hamilton Sundstrand provides cost or pricing data that supports the higher prices.

**Air Force Comments.** The Air Force concurred in principle. The Air Force prefers to address this matter by developing an integrated process team to jointly work the issue of price, with support issues, response time, etc. Estimated completion date for establishing an integrated process team and completing the review is September 30, 2000.

**Under Secretary of Defense for Acquisition, Technology, and Logistics Comments.** The joint comments stated that he appreciated the Inspector General, Department of Defense effort to estimate cost-based prices. However, the estimated cost-based prices ignored realized historical prices and the legitimate price of value-added services contained within the contract. The joint comments also stated that Air Force contracting officers should be afforded the flexibility to negotiate best-value prices based on cost, urgency, schedule, and material availability.



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**Audit Response.** The Air Force proposal meets the intent of our recommendation. We stand by our price calculations. In addition, although we agree with the joint comments that the Air Force should have the flexibility to use the "value-added services" contained in the contract, the point is irrelevant because the Air Force was not doing so. Instead, the Air Force was procuring large quantities of items for stock. In fact, Warner Robins personnel also recognized that they were receiving few or no value-added services for the reparable items and were in the process of pursuing a long-term requirements contract with Hamilton Sundstrand for those same reparable items. We recognize that there are costs associated with additional services and have no objection to paying fair and reasonable prices for these additional services when warranted. We also had no intention of limiting the flexibility of Air Force contracting officers.

3. We recommend that the Deputy Under Secretary of Defense (Acquisition Reform); the Director, Defense Logistics Agency; and the Commander, Warner Robins Air Logistics Center establish a team to negotiate a strategic alliance with Hamilton Sundstrand modeled after the Honeywell strategic alliance. The strategic alliance should result in mutually advantageous pricing, decreased response times, more accurate forecasting, reduced inventory, and decreased administrative costs.

**Defense Logistics Agency Comments.** The Defense Logistics Agency concurred with the recommendation and stated that initial meetings with Hamilton Sundstrand and Secretary of the Air Force Staff were conducted in December 1999 and January 2000 to establish the recommended strategic alliance and improve the current VPV program.

**Under Secretary of Defense for Acquisition, Technology, and Logistics Comments.** The joint comments also concurred with the recommendation.

**Air Force Comments.** The Air Force concurred with the recommendation and stated a letter is in coordination cycle requesting Air Force Materiel Command, Defense Logistics Agency, and Warner Robins Air Logistics Center form an integrated process team that completes a strategic alliance by no later than September 30, 2000.

**Audit Response.** Management comments were responsive. We look forward to participating as a member of the team developing the strategic alliance with Hamilton Sundstrand and will ensure that the appropriate resources from our organization are allocated to help make the effort a success.

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## **Management Comments on the Finding and Audit Response**

### **Comments from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics**

**Comments on Most Economical and Effective Purchasing Strategy.** The joint comments stated that, since the report did not compare the "before and after," a conclusion could not be reached that the DLA virtual prime vendor contract with Hamilton Standard was not the most economical and effective purchasing strategy. Further, they noted that the report agrees with most of the before and after comparisons made in the KPMG business case analysis that showed significant potential benefits.

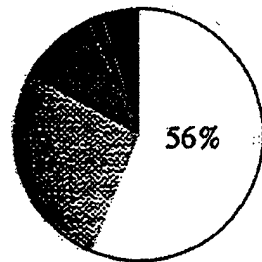
**Audit Response.** The audit never attempted to compare the "before and after" because the tailored purchasing strategy developed by the AlliedSignal Rapid Improvement Team offered a better purchasing strategy than either the before or current purchasing strategy. In regard to the KPMG business case, the study made various assumptions such as improving delivery, reducing inventory by \$16 million, and improving contract prices for parts. Only if the assumptions were met could the benefits of the VPV program be obtained in the before and after scenarios. Further, the savings associated with the VPV program related to reduced inventory (wholesale and retail) and lower inventory holding costs.

**Comments on Improvements in Parts Availability and Delivery Times.** The joint comments stated that the report failed to recognize the improvements in parts availability and delivery times and the positive economic impact of capital asset availability and that the contract is still providing improved service to the customer over traditional methods of support.

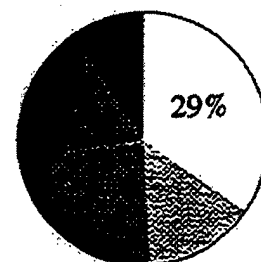
**Audit Response.** Data obtained during the audit does not show the VPV contract was providing improved parts availability when compared with similar aviation spare parts managed and stocked in the DLA Depot Supply System. In fact, the data shows that the DLA depot system was performing significantly better than the VPV contract.

Figure 2 shows that the logistics response time (date of requisition to date of item receipt) for items stocked in the DLA Depot Supply System, was better than the VPV contract ship time (date of requisition to VPV contractor ship date). The DLA Depot logistics response times were based on requisitions issued from 07/01/98 through 06/30/99 and the VPV contract ship times were based on items requisitioned from 01/01/98 through 03/09/99.

**DLA Depot**  
(1,118 Requisitions)



**VPV Contract**  
(7,939 Requisitions)



0-8 days
  21-60 days
  9-20 days
  61-120 days
  Over 120 days

**Figure 2. DLA depot system delivered almost twice as many requisitioned items within 8 days as the VPV contractor delivered.**

**Comments on the Cost of Maintenance for Prime Vendor Support.** The joint comments stated that the report failed to recognize that the cost of maintenance for prime vendor support is embedded in the unit prices. To assert that prices paid for parts have risen precipitously and are now unreasonable based on a comparison of incurred manufacturing and related costs from previous buys, ignores the value-added service, performance, and other factors that are central to the VPV business strategy.

**Audit Response.** The embedded maintenance, logistics support costs, and value added services provided by the VPV contractor were fully recognized and addressed in Tables 9, 10, and 11.

**Comments on Return to Traditional Buying Arrangements.** The joint comments stated there was an assertion in the draft report that the customer would be better served if the VPV contract were terminated and a return was made to the previous traditional buying arrangements. The joint comments also stated that this was inconsistent with the recommendation for a strategic supplier alliance and the broader business case for moving forward, correcting inconsistencies, and creating an environment for success.

**Audit Response.** We revised our wording. Our point was that, for new contracting arrangements, corporate contracts, virtual prime vendor contracts, and strategic supplier alliances to be successful, they must provide a better value than the previous buying arrangements. This recognition was the basis for our recommendation to negotiate a strategic alliance agreement with Hamilton Sundstrand similar to the agreement being negotiated with Honeywell.

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**Comments on Logistics Effectiveness by DLA at the Naval Aviation Depot (NADEP) Cherry Point.** The joint comments stated that DLA provided results for the VPV program at NADEP Cherry Point that showed parts availability up 30 percent, prop assembly turn-around time reduced 20 percent, and blade turn-around time reduced 16.7 percent. In addition, average material expenditure per blade was 64 percent less than programmed.

**Audit Response.** The NADEP Cherry Point VPV results provided by DLA were misleading. We obtained the Fleet Equipment Production Report from Cherry Point for the two items (E2/C2 blade and E2/C2 propeller assembly) on which the conclusions were based. While the report does show no blades in condition code G (material requiring additional parts or components to complete the end item prior to use), there were very few different parts used to repair the blades. For example, for the two quarters with the highest total material costs, (second and third quarters of FY 1999), only four different parts were used to repair the blades. NADEP Cherry Point also had significant amounts of on-hand inventory (quantities of 6, 35, 54, and 134) for the parts or 23, 68, 81 and 217 day retail inventory levels based on the daily usage rate.

The production report data is based on slightly different data than that provided in the NADEP Cherry Point results data (items inducted and subsequently completed versus items completed and then backtracking to the induction dates). However, it would be difficult to support the DLA contention of measurable improvement in turn around times. In fact, for the first quarter of FY 2000 where the greatest improvement in turn around time is shown, only 22 of the 102 blades inducted for repair were actually repaired and ready for issue. In fact, the data provided by NADEP Cherry point showed that in September 1999 the average turn around time was 42 days for 27 blades. However, in October 1999 the average turn around time decreased to 9 days but only for 3 blades and in November 1999 the average turn around time was 16 days but only for 4 blades. In regard to material expenditures, the data shows a significant increase in material costs.

Table 12 shows that unit material costs for the E2/C2 propeller assembly have almost doubled from the first quarter of FY 1998 (\$30,207) to the fourth quarter of FY 1999 (\$61,204). Average turn-around-time for the blade did decrease from 44 days in the first quarter of FY 1998 to 38 days in the fourth quarter of FY 1999. However, average turn-around-time for the propeller assembly increased from 84 days in the first quarter FY 1998 to 86 days in the fourth quarter FY 1999.

Table 12. Fleet Equipment Production Report Data								
<b>E2/C2 Blade</b>								
Description	Induction Year FY 1998				Induction Year FY 1999			
	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr
Units Repaired	56	57	14	9	16	55	46	31
Total Material Cost	\$57,889	\$6,206	\$0	\$0	\$37,552	\$66,146	\$65,473	\$105,063
Material Unit Cost Average	\$1,034	\$109	\$0	\$0	\$2,347	\$1,203	\$1,423	\$3,389
Turn-Around-Time Average	44 days	40 days	36 days	39 days	28 days	40 days	22 days	38 days
<b>E2/C2 Propeller Assembly</b>								
Units Repaired	13	40	41	11	12	10	0	21
Total Material Cost	\$392,696	\$1,675,969	\$1,691,349	\$966,035	\$481,671	\$1,084,062	N/A	\$1,285,280
Material Unit Cost Average	\$30,207	\$41,899	\$41,252	\$87,821	\$40,139	\$108,406	N/A	\$61,204
Turn-Around-Time Average	84 days	79 days	99 days	88 days	61 days	69 days	N/A	86 days

**Comments on Cost-Based Prices.** The joint comments stated that price analysis was based strictly upon a hypothetical "cost-based" price for selected items and that it was impossible to judge whether the estimated cost-based prices could be achieved. In addition, for the 28 Hamilton Standard parts the VPV contract price in the report is \$163,982 less than the estimated cost-based prices.

**Audit Response.** The "cost-based" prices in question were based on actual contractor costs as identified by the Defense Contract Management Command for the reviewed items. In addition, the amount of profit applied in the cost-based analysis was higher than would normally be supported by DoD weighted guidelines for profit. Contracting officers have historically been able to negotiate prices relative to actual cost-based data using weighted guidelines to determine the appropriate profit. Table 1 shows that the VPV price for 28 items is \$163,982 less than the cost-based price, without consideration of applicable DLA surcharges. The Table also shows 49 Derco items with VPV amounts significantly more than the cost-based prices.

**Comments on Cost Recovery Decisions.** The joint comments stated that, under the initial VPV contract, both the Air Force and DLA added their cost recovery surcharge to the VPV items. Prices charged to the customer, therefore, were partly a function of Air Force cost recovery decisions, not the method of support.

**Audit Response.** The Air Force used the VPV contract to purchase repairable items for its wholesale level stock and applied a surcharge that related directly

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to this wholesale inventory method of support. The VPV contract was designed to eliminate this DoD wholesale level inventory because the wholesale level inventory costs were built into the VPV prices.

**Comments on Appropriateness of Air Force Surcharge.** The joint comments stated that the report focused on the apparent overhead and handling fees of Hamilton Standard, but totally ignored the appropriateness of the 20 percent surcharge on VPV items by Warner Robins.

**Audit Response.** For the Air Force repairable items, Table 8 shows a comparison between the current VPV method of support, using DLA to manage the items on the VPV contract, or having Warner Robins manage and procure the items on a different contract. The table shows that the most economical method of support was using Warner Robins to manage and procure the items. If the Air Force wanted to transfer management responsibility for these repairable items to DLA and DLA could make some improvement on VPV prices, using the VPV contract to procure the items would be a viable alternative. However, as addressed in the report, the most effective method of support for these repairable items appears to be using a replenishment schedule where neither the contractor nor Air Force maintain large levels of wholesale inventory.

**Comments on DLA Surcharge.** The joint comments stated that DLA initially applied a discounted surcharge rate of 7 percent to the VPV contract and that DLA subsequently eliminated the 7 percent charge.

**Audit Response.** Although DLA did eliminate the 7 percent surcharge from Air Force managed repairable items, DLA still charges the 7 percent on the DLA managed items.

**Comments on Surge Funding.** The joint comments stated that surge requirements, including warstopper and industrial readiness investment, continue to be a significant consideration to ensure DoD can meet its wartime mission. As DLA moves to greater reliance on industrial prime vendors, it is logical and necessary that DoD surge requirements be clearly articulated to its industrial partners.

**Audit Response.** We agree that under various strategic alliances with industrial partners, funding contractors to establish and maintain surge capability is a necessity. However, providing contractors with millions of dollars of funding with very broad requirements does not help to ensure that DoD can meet its wartime mission. At a minimum, cost benefits analyses should be used to determine the best method of support for surge requirements. In addition, we believe that surge funding should be used to procure the raw materials, not end-items, that would be necessary for the contractor to increase industrial capability to meet surge requirements. Further, allowing contractors to use surge funding to procure end items that augment contractor inventory for normal operations can actually reduce a contractor's ability to maintain a surge capability.

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**Comments on Inventory.** The joint comments stated that the comparison of DoD-held inventory and VPV-held inventory was grossly misleading and inappropriate. First, because the VPV contract was in its initial stages, DLA does own and maintain some inventory. Second, in order to assess "better use of funds" the analysis must consider the entire surge requirement.

**Audit Response.** The VPV contract was awarded in October 1996 and is no longer in its initial stages and there was no evidence that DLA had reduced its inventory.

We tried to assess the entire surge requirements throughout the audit. However, because DLA was constantly redefining its surge requirements and negotiating with the contractor, we chose not to report on that plan since negotiations were ongoing. As of February 11, 2000, DLA and Hamilton Sundstrand were still negotiating the surge plan.

**Comments on the Term "Total Ownership Costs."** The joint comments objected to the use of the term "total ownership costs" in regard to spare parts and commented that the term should only be used when referring to the life cycle cost of DoD weapons systems.

**Audit Response.** We changed the term to "user costs."

**Comments on Tailored Strategy that Includes Cost-Based Pricing.** The joint comments expressed appreciation for the DoD-IG endorsement of ongoing DLA/DUSD (AR) efforts to establish a strategic supplier alliance with Hamilton Sundstrand. However, the joint comments did not agree with the supposition that such a tailored strategy necessarily included cost-based pricing negotiations.

**Audit Response.** We believe that other strategic supplier alliances modeled after the prospective alliance between DLA and Honeywell, are worth pursuing. As was the case with the DLA/Honeywell alliance, cost-based pricing negotiations should only be used for those items determined to be sole-source. DoD should also consider restricting new business with those contractors that are not willing to participate in an alliance arrangement.

## **Defense Logistics Agency Comments on the Finding**

**Comments on Prototype Effort.** DLA commented that the VPV contract was a prototype effort to help move the Agency and DoD away from the traditional parts management business to a more integrated logistics support structure. As with any prototype effort, not every aspect of the effort was a success. However, within the context of the current acquisition reform and logistics environment, DLA analysis shows improved parts availability, zero returns due to quality, elimination of most local procurement buy-arounds, increased maintenance production, and enhanced customer-vendor communication.

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**Audit Response.** We recognize that the VPV contract was a prototype effort and that DLA was therefore breaking new ground in an attempt to improve service to customers, which is certainly commendable. We hope that the results of the audit have helped to identify problem areas that can be resolved as part of the new strategic alliance with Hamilton Sundstrand.

**Comments on Supply Chain Benefits.** DLA commented that the audit conclusions did not focus on the overall DoD supply chain benefits. DLA provided cases of specific improvements that directly impacted NADEP Cherry Point.

- Parts availability up 30 percent (percent shipped in 8 days).
- Prop assembly turn-around time reduced from 110 days to 88 days (20 percent). Blade turn-around time reduced by 16.7 percent.
- Blade Material Cost: Average material expenditure per blade was 64 percent less than programmed.
- Quality: No G condition returns since first quarter 1998.

**Audit Response.** As previously stated, parts availability (8 days) from the VPV contract was not as good as from the DLA depot system (Figure 2). The data relating to turn-around time, material costs, and G condition parts was also misleading (Table 12).



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## Appendix A. Audit Process

### Scope

**Work Performed.** We reviewed DLA procedures and support contract documentation for delivery orders issued by the Defense Supply Center Columbus, the Defense Supply Center Richmond, and the Defense Industrial Supply Center to Hamilton Standard under corporate contract SPO400-96-D-9426. During CY 1998, DLA issued 6,528 contract actions totaling \$19.0 million to Hamilton Standard on contract SPO400-96-D-9426. We reviewed a total of 4,036 contract actions valued at \$18.0 million. A total of 85 different NSNs were procured on the 4,036 contract actions.

**DoD-wide Corporate Level Government Performance and Results Act (GPRA) Coverage.** In response to the Government Performance and Results Act, the Secretary of Defense annually establishes DoD-wide corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following goal, subordinate performance goal, and performance measures.

**FY 2001 DoD Corporate Level Goal 2:** Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. (01-DoD-2). **FY 2001 Subordinate Performance Goal 2.3:** Streamline the DoD infrastructure by redesigning the Department's support structure and pursuing business practice reforms. (01-DoD-2.3). **FY 2001 Performance Measure 2.3.3:** Public/private sector competitions. (01-DoD-2.3.3). **FY 2001 Performance Measure 2.3.4:** Logistics response time. (01-DoD-2.3.4). **FY 2001 Performance Measure 2.3.5:** Visibility and accessibility of DoD Materiel Assets. (01-DoD-2.3.5). **FY 2001 Performance Measure 2.3.6:** Disposal of excess National Defense Stockpile inventory and reduction of supply inventory. (01-DoD-2.3.6).

**DoD Functional Area Reform Goals.** Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following functional area objectives and goals.

- **Acquisition Functional Area. Objective:** Internal Reinvention.  
**Goal:** Eliminate layers of management by streamlining processes while reducing the DoD acquisition-related workforce by 15%.  
(ACQ-3.1)

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- **Logistics Functional Area. Objective:** Reduce Logistics Cycle Times. **Goal:** Implement Total Asset Visibility to permit the gathering of information from DoD systems on all classes of supply (including ammunition and principal end items) as well as units, personnel and medical patients. (LOG-1.2)
  - **Logistics Functional Area. Objective:** Streamline Logistics Infrastructure. **Goal:** Implement most successful business practices (resulting in reductions on minimally required inventory levels). (LOG-3.1)

## **Methodology**

**Use of Computer-Processed Data.** To achieve the audit objectives we relied on computer-processed data from the DLA supply centers and Hamilton Standard to determine the audit scope. The computer-processed data were determined reliable based upon the significant number of contract actions we reviewed and compared to the data output from the supply centers. Although we did not perform a formal reliability assessment of the computer-processed data, we determined that the contract delivery order numbers, award dates, and amounts generally agreed with the information in the computer-processed data. We did not find errors that would preclude use of the computer-processed data to meet the audit objectives or that would change the conclusions in the report.

**Universe and Delivery Orders Reviewed.** The table summarizes the DLA delivery orders reviewed on VPV contract SPO400-96-D-9426 with Hamilton Standard.

DLA Parts and Contract Actions Reviewed on Hamilton Contract SPO400-96-D-9426					
Contract Parts					
Managed By	CY 1998 Total Parts		Parts	Parts Reviewed	
	Parts	Amount		Amount	Amount
		1998 VPV		(1998 Price)	(1999 Price)
Warner Robins	8	\$9,352,786	8	\$9,352,786	\$8,970,701
Hamilton Standard	55	4,509,505	28	4,284,632	4,318,570
Derco	272	5,181,098	49	4,324,147	4,376,778
Total	335	\$19,043,389	85	\$17,961,564	\$17,666,049
Contract Actions					
CY	Total Contract Actions		Number	Contract Actions Reviewed	
	Number	Amount		Amount	Amount
1998	6,528	\$19,043,389	4,036	\$17,961,564	

**Fair and Reasonable Prices.** Fair and reasonable prices were calculated using Hamilton Standard cost data based on standard costs, and from comparisons to breakout prices. Other than for the breakout parts, cost-based acquisition procedures were used to calculate fair and reasonable prices. The cost data and updated price proposals were discussed in detail with Hamilton Standard in November 1998. Whenever possible, the same profit rate was used that was used on the negotiated orders. Detailed analysis schedules for the parts reviewed were provided to Hamilton Standard, DLA headquarters, and each supply center.

**Audit Type, Dates, and Standards.** We performed this program audit from April 1999 through September 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. The adequacy of the DLA management control program was addressed in Inspector General, DoD, Report No. 98-088, therefore we did not review it further.

**Contacts During the Audit.** We visited or contacted individuals within the DoD and Hamilton Standard. Further details are available on request.

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## Appendix B. Prior Coverage

During the last 5 years, the General Accounting Office has issued two audit reports and the Inspector General, DoD, has issued six audit reports discussing either contractor estimating systems or prices for spare parts.

### General Accounting Office

General Accounting Office Report No. NSIAD-99-90, "DoD Pricing of Commercial Items Needs Continued Emphasis," June 1999.

General Accounting Office Report No. NSIAD-94-153, "Contract Pricing, DoD Management of Contractors with High Risk Cost-Estimating Systems," July 1994.

### Inspector General, DoD

Inspector General, DoD Report No. D-2000-099, "Procurement of the Blade Heaters for the C-130 and P-3 Aircraft," March 8, 2000.\*

Inspector General, DoD Report No. 99-218, "Sole-Source Noncommercial Spare Parts Orders On a Basic Ordering Agreement," July 27, 1999.\*

Inspector General, DoD Report No. 99-217, "Sole-Source Commercial Spare Parts Procured on a Requirements Type Contract," July 21, 1999.\*

Inspector General, DoD Report No. 99-026, "Commercial Spare Parts Purchased on a Corporate Contract," October 30, 1998.\*

Inspector General, DoD, Report No. 98-088, "Sole-Source Prices for Commercial Catalog and Noncommercial Spare Parts," March 11, 1998.\*

Inspector General, DoD, Report No. 98-064, "Commercial and Noncommercial Sole-Source Items Procured on Contract N000383-93-G-M111," February 6, 1998.\*

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\*Only redacted versions of these reports will be available on the Internet at [www.dodig.osd.mil/audit/reports](http://www.dodig.osd.mil/audit/reports). These reports belong to the series of reports discussed in the Executive Summary and elsewhere in this report.

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## Appendix C. DLA Virtual Prime Vendor Program

The Commander, Defense Contract Management Command (DCMC), provided comments at Hearings before the Committee on Armed Services, United States Senate, March 18, 1998, (Senate Hearing 105-605, Part 5) on the status of acquisition reform in DoD. The Commander discussed how DLA had developed several fundamental changes to the business of Government and addressed one of the new "paradigms" called prime vendor contracting. Prime vendor is an adaptation of a best industry practice of buying and distributing consumable products.

The next generation of prime vendor we call virtual prime vendor (VPV). It is more commonly known as integrated supply chain management. VPV is a more comprehensive approach that addresses a wider spectrum of customer support needs. One vendor under a DLA long-term contract anticipates the customer's needs and has supplies immediately available on demand. The VPV is responsible for providing total logistical support across traditional commodity/product lines by using state-of-the-art commercial business solutions. VPV functions can include forecasting requirements, purchasing, inventory control, engineering support, technical services, storage, and distribution functions. The VPV draws on a virtual inventory of vendors and depot stock. The VPV integrates this supply chain providing tailored logistics support to a specific major customer and/or weapons system. The VPV also provides for national defense readiness and emergencies. Some of the benefits of using a VPV include reduced inventory, both wholesale and retail, faster delivery, direct visibility and access to commercial assets, reduced customer downtime for items awaiting out-of-stock parts, and value added services, such as no hassle warranty on returns, and technical support. DLA awarded the first of these VPV contracts in October 1996. Wherein the VPV is the distributor of items for the Warner Robins Air Logistic Center C-130 propeller maintenance shop, and the Naval Air Depot Cherry Point, North Carolina. This VPV operates a process-wide paperless system that eliminates inventory redundancies, simplifies procedures, provides on-demand supply support, and provides a reduced total cost method of operation. Reductions in inventory investment as result of these business practice changes are \$6.0 million, DLA; \$2.3 million Air Force, and \$2 million Navy and Marine Corps. [emphasis added]

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In August 1998, the Deputy Secretary of Defense issued a memorandum "Department of Defense Reform Initiative Directive #45 - Prime Vendor Contracting Program for Facility Maintenance Supplies," that addressed the advantages of the new commercial business designed to promote efficiency in facility maintenance supply support.

The Defense Logistics Agency (DLA) has developed a prime vendor program designed to permit facility maintenance activities to order maintenance, repair, and operations (MRO) supplies directly from integrated supply chain contractors. The program goal is to provide items quickly to meet customer needs at discounted commercial prices. DLA has completed its award of regional contracts providing nationwide MRO contract coverage.

Many Military Department facility maintenance activities are participating in or have committed to participate in the program. As more activities participate, DLA can leverage DoD purchasing power to reduce prices even further. Participation is expected to result in savings due to lower prices, reduced DLA and Service-held inventories, and reduced overall DoD maintenance supply support infrastructure costs.

**Secretary of Defense "New Workforce Vision."** Section 912(c) of the National Defense Authorization Act for FY 1998 directed the Secretary of Defense to submit to Congress an implementation plan to streamline the acquisition organizations, workforce, and infrastructure. In response, the Secretary of Defense prepared a report to Congress, "Actions to Accelerate the Movement to the New Workforce Vision," April 1, 1998, that expressed the Secretary's vision

My vision of the acquisition workforce 10 years from now is one that is smaller and in fewer organizations; is focused on managing suppliers, rather than supplies; and is focused on the total cost of ownership to provide and support high quality goods and services required by our warfighting men and women. It will be a workforce that is engaged primarily in working with the Services to determine affordability of requirements; helping to establish and execute budgets; working to reduce cycle times; establishing contractual vehicles that are easily accessed by our customers within DoD; overseeing contracts to make sure the work gets done on time, within tough performance parameters, and, of course, within budget; and, all the while, ensuring the public's trust and confidence.

The Secretary of Defense proposed a number of significant new initiatives to accelerate the attainment of his vision. The new initiatives were separated into five categories: 1) restructure research, development, and test; 2) restructure sustainment; 3) increased acquisition workforce education, and training;

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4) integrated, paperless operations; and 5) future focus areas (that is, a price-based approach to acquisition and more fully integrating our test and evaluation activities into our acquisition process).

In regard to restructuring sustainment, the Secretary of Defense provided guidance on why change was needed and what actions must be taken that addressed prime vendor contracts.

Restructuring sustainment will result in fewer personnel in all aspects of product and commodity support, above the military "organizational" level, and in fewer support organizations. The maintenance of inventories will undergo a dramatic change under this proposal, as contractors will retain most inventories except for those in the hands of operational forces. Government-held wholesale stocks will largely disappear. Expanded reliance on competitive sourcing for product support will require the establishment and maintenance of long-term relationships with organizations (public and private) who are properly incentivized to provide dependable delivery at affordable prices and with increasingly reliable equipment. It will also depend on effective interfaces with the command and control structure of strategic distribution systems in theaters of operation, to ensure that the supply system and the transportation system work together to provide for timely delivery to deployed units. All of this (as in world-class commercial operations) depends on modern information systems and rapid transportation and supply – all fully integrated.

**Greatly Expanded Prime Vendor and Virtual Prime Vendor.** As a result of the revolutions in the marketplace – in terms of transportation, manufacturing, and technology – it is no longer necessary for DoD to manage supplies. What DoD needs to do is manage suppliers through programs such as Prime Vendor; and where Prime Vendor is not a commercial practice in a particular sector, create a Virtual Prime Vendor which accomplishes the same outcome through the use of technology. This initiative will reduce the number of personnel and the amount of infrastructure we need to support our warfighters. It will also improve delivery of products and services, but will require the acquisition of new skills by our existing workforce.

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I will direct the Under Secretary of Defense (Acquisition & Technology) to establish a team to examine where additional Prime Vendor or Virtual Prime Vendor vehicles can be used and to begin implementation in those areas. Included in this analysis will be a review of the impact of prime vendor or virtual prime vendor vehicles on the local economy.



## Appendix D. Comparison of VPV Contract Prices with Cost-Based Prices for Warner Robins Repairable Parts

Part	NSN	Description	1998 Quantity	1999 VPV Contract		1999 DCMC Recommended		Difference	
				Unit Price	Total Price	Unit Price	Total Price	Amount	Percent
A01		Blade, Propeller	523	\$13,925.00	\$7,282,775				
A02		Barrel, Propeller	36	27,800.00	1,000,800				
A03		Housing, Pump	21	12,200.00	256,200				
A04		Governor, Aircraft Propeller	26	7,625.68	198,268				
A05		Servo, Speed Bias	19	6,686.00	127,034				
A06		Hub Mounting Assembly	6	7,000.00	42,000				
A07		Spinner, Propeller	3	12,088.17	36,265				
A08		Valve Housing	2	13,680.00	27,360				
Total					\$8,970,701				

Part	NSN	Description	Annual Demand	1999 VPV Contract		1999 DCMC Recommended		Difference	
				Unit Price	Total Price	Unit Price	Total Price	Amount	Percent
A01		Blade, Propeller	307	\$13,925.00	\$4,274,975				
A07		Spinner, Propeller	204	12,088.17	2,465,987				
A02		Barrel, Propeller	68	27,800.00	1,890,400				
A06		Hub Mounting Assembly	69	7,000.00	483,000				
A05		Servo, Speed Bias	23	6,686.00	153,778				
A04		Governor, Aircraft Propeller	18	7,625.68	137,262				
A03		Housing, Pump	9	12,200.00	109,800				
A08		Valve Housing	1	13,680.00	13,680				
Total					\$9,528,882				

## Appendix E. Comparison of VPV Contract Prices with Cost-Based Prices for Hamilton Standard Parts

Part	NSN	Description	1998 Quantity	1999 VPV Contract Price		1999 Cost-Based Price		Difference	
				Unit Price	Total Price	Unit Price	Total Price	Amount	Percent
H01		Gear Sector, Bevel	990	\$1,718.92	\$1,701,731				
H02		Dome and Lug Assembly	334	2,083.21	695,792				
H03		Connector Brush	336	663.67	222,993				
H04		Cover Stock, Neopren	3,015	67.49	203,482				
H05		Cam, Rotating	27	7,300.00	197,100				
H06		Housing & Brush Assembly	175	1,089.64	190,687				
H07		Housing and Insert	607	303.48	184,212				
H08		Plate and Retainer	44	3,026.00	133,144				
H09		Stop Assembly	39	3,041.72	118,627				
H10		Sheath, Blade	138	839.80	115,892				
H11		Ring and Pin, Pitch Lock	76	1,054.58	80,148				
H12		Housing Assembly	562	142.00	79,804				
H13		Gear, Spur	27	2,619.84	70,736				
H14		Bracket, Control Drive	232	196.88	45,676				
H15		Gear, Spur	41	1,094.50	44,875				
H16		Piston and Shaft	48	891.52	42,793				
H17		Cover and Seal	28	1,426.83	39,951				
H18		Filler Neck	36	897.83	32,322				
H19		Valve, Pitch lock	48	616.90	29,611				
H20		Shell, Blade, Propeller	6	4,591.00	27,546				
H21		Gear, Spur	22	1,235.42	27,179				
H22		Ring and Stiffener	6	3,032.26	18,194				
H23		Gear Sector, Bevel	1	6,368.00	6,368				
H24		Valve Assembly, Backup	10	286.70	2,867				
H25		Nonmetallic Special Shaped	29	69.50	2,016				
H26		Section Dome and Pin	1	1,977.04	1,977				

<u>Part</u>	<u>NSN</u>	<u>Description</u>	<u>1998</u> <u>Quantity</u>	<u>1999 VPV Contract Price</u>		<u>1999 Cost-Based Price</u>		<u>Difference</u>	
				<u>Unit Price</u>	<u>Total Price</u>	<u>Unit Price</u>	<u>Total Price</u>	<u>Amount</u>	<u>Percent</u>
H27		Cable Assembly	4	\$487.10	\$ 1,948				
H28		Ring, Stop	1	898.49	898				
Total					\$4,318,570				

# Appendix F. Comparison of VPV Contract Prices with Better Prices for Derco Parts

Part	NSN	Description	1998			1999 VPV Price			Code	1999 Comparison Price			Difference	
			Quantity	Unit Price	Total Price	Unit Price	Total Price	Unit Price		Quantity	Unit Price	Total Price	Amount	Percent
D01		Heater, Propeller Blade	2,716	\$519.70	\$1,411,505			\$201.44		1999		\$547,111	\$864,394	158.0
D02		Seal Plate	1,454	293.76	427,127			181.10		5/9/94	3,500	263,319	163,808	62.2
D03		Indicator-oil level	193	1,384.00	267,112			877.98		9/10/98		169,450	97,662	57.6
D04		Lock-Feather	1,025	182.90	187,473			102.52		11/19/98		105,083	83,390	78.4
D05		Ring, Packing Seat	962	174.80	168,158			122.00		3/10/99		117,364	50,794	43.3
D06		Brake, Electrical	403	364.24	146,789			218.46		12/5/91	1,285	88,039	58,749	66.7
D07		Boot-Rubber, Fair	2,327	62.96	146,508			36.88		6/8/95	2,781	85,820	60,688	70.7
D08		Switch & Bracket	661	175.32	115,887			89.84		8/29/94	468	59,384	56,502	95.1
D09		Filter, Disk	48,038	2.15	103,325			1.06		7/7/97	37,128	50,941	52,383	102.8
D10		Torque, Retainer, Lug	348	294.40	102,451			71.38		9/19/94	1,160	24,840	77,611	312.4
D11		Bearing, Washer, Thrust	392	240.00	94,080			53.80		4/28/98	530	21,090	72,990	346.1
D12		Bolt-Relieved, Spl	1,489	61.60	91,722			24.00		4/9/99		35,736	55,986	156.7
D13		Washer, Half thrust	324	248.00	80,352			67.73		5/25/89	2,345	21,945	58,407	266.2
D14		Bearing Roller	64,699	1.22	78,933			0.76		3/1/99		49,171	29,762	60.5
D15		Cam and Pin	149	510.00	75,990			155.30		12/23/98		23,140	52,850	228.4
D16		Washer, Half thrust	301	248.00	74,648			65.19		5/17/95	364	19,622	55,026	280.4
D17		Valve Cover	18	3,670.40	66,067			2,294.00		1/27/99		41,292	24,775	60.0
D18		Remote Control Lever	24	2,468.80	59,251			1,090.00		1999		26,160	33,091	126.5
D19		Motor, Electrical	169	340.40	57,528			146.64		11/30/90	225	24,782	32,745	132.1
D20		Tube-Fluid, Transfer	203	268.80	54,566			100.49		3/22/95	129	20,399	34,167	167.5
D21		Bolt, Fluid Passage	852	63.84	54,392			24.00		1/8/99		20,448	33,944	166.0
D22		Seal-O-Ring	3,717	13.20	49,064			5.68		9/22/98	5,000	21,113	27,952	132.4
D23		Contact Ring Holder	2,696	16.56	44,646			9.74		3/12/98		26,259	18,387	70.0
D24		Cable Assembly	1,592	22.85	36,377			13.28		7/12/95	1,790	21,142	15,235	72.1
D25		Cone-Front	141	254.40	35,870			146.16		6/9/98		20,609	15,262	74.1
D26		Tube-Fluid, Transfer	49	725.53	35,551			399.91		11/19/98		19,596	15,955	84.1

Part	NSN	Description	1999 VPV Price			Code*	1999 Comparison Price				Difference	
			Quantity	Unit Price	Total Price		Order Date	Quantity	Unit Price	Total Price	Amount	Percent
D27		Breather, Cover	402	\$82.27	\$ 33,073		1/7/95	345	\$44.07	\$ 17,716	\$ 15,356	86.7
D28		Retainer and Roller Bearing	131	238.40	31,230		10/15/98		151.24	19,812	11,418	57.6
D29		Sleeve-Guide	156	200.00	31,200		3/10/95	225	97.28	15,176	16,024	105.6
D30		Washer, Half Thrust	122	248.00	30,256		8/25/94	200	69.67	8,500	21,756	256.0
D31		Boot, Blade	532	55.20	29,366		5/18/98		35.02	18,631	10,736	57.6
D32		Elec. Contact Ring	96	302.40	29,030		11/28/95	54	169.97	16,317	12,713	77.9
D33		Sleeve lever support	12	2,048.78	24,585		4/9/98		2,148.76	25,785	-1,200	-4.7
D34		Bracket-Switch, Adjus	211	114.89	24,242		12/4/98		47.81	10,088	14,154	140.3
D35		Bearing, Ball, Duplex	353	65.60	23,157		1/14/99		51.92	18,328	4,829	26.3
D36		Seal-Rub, Spl Shape	4,372	4.50	19,674		5/8/98		1.64	7,170	12,504	174.4
D37		Shaft Input	5	3,468.80	17,344		1/27/99		466.00	2,330	15,014	644.4
D38		Pin Drive Guided	491	13.65	6,702		4/13/98	500	4.82	2,367	4,336	183.2
D39		Nut Propeller Hub	1	4,480.00	4,480		9/23/96	6	1,032.28	1,032	3,448	334.0
D40		Retainer Packing	41	55.60	2,280		10/29/96	74	34.75	1,425	855	60.0
D41		Yoke-Linkage	1	2,000.00	2,000		1999		49.22	49	1,951	3,963.4
D42		Nut, Self-Locking	58	10.30	597		6/17/98	100	7.92	459	138	30.1
D43		Cam-Control, Alpha	2	267.60	535		1999		77.08	154	381	247.2
D44		Cable Wirelon	260	2.00	520		12/1/95	435	0.45	117	403	344.4
D45		Flange, Filler	1	472.40	472		1999		351.83	352	121	34.3
D46		Gear Retaining Nut	407	1.10	448		7/1/91	4,770	0.77	313	134	42.9
D47		Tube, Bent, Metallic	1	195.20	195		1999		72.06	72	123	170.9
D48		O-Ring	50	0.22	11		9/22/98	21,050	0.11	6	6	100.0
D49		Nut-Hex	1	7.87	8		1999		4.76	5	3	65.3
Total					\$4,376,778					\$2,090,059	\$2,286,719	109.4

## Appendix G. Multiple Inventory Systems

<u>Inventory Systems</u>		<u>Contractor and User Representatives with System Access</u>				
<u>Contractor</u>		<u>Contractor</u>	<u>DLSC</u>	<u>DCMC</u>	<u>Air Force</u>	<u>Navy</u>
1. Hamilton		X		X		
2. Derco		X	X			
<u>Air Force</u>						
3. D035		O			X	
4. D041		O			X	
<u>DLA</u>						
5. DISC SAMMS		X	X		X	
6. DSCR SAMMS		X	X		X	
7. DSCC-E SAMMS		X	X		X	
8. DSCC-C SAMMS		X	X		X	
<u>Navy</u>						
9. NIMMS						X
10. UADPS						X
11. SUADPS						X
12. DSS						X
Accessible Systems		8	5	1	6	4

X - Full Access O - Limited Access

### Acronyms

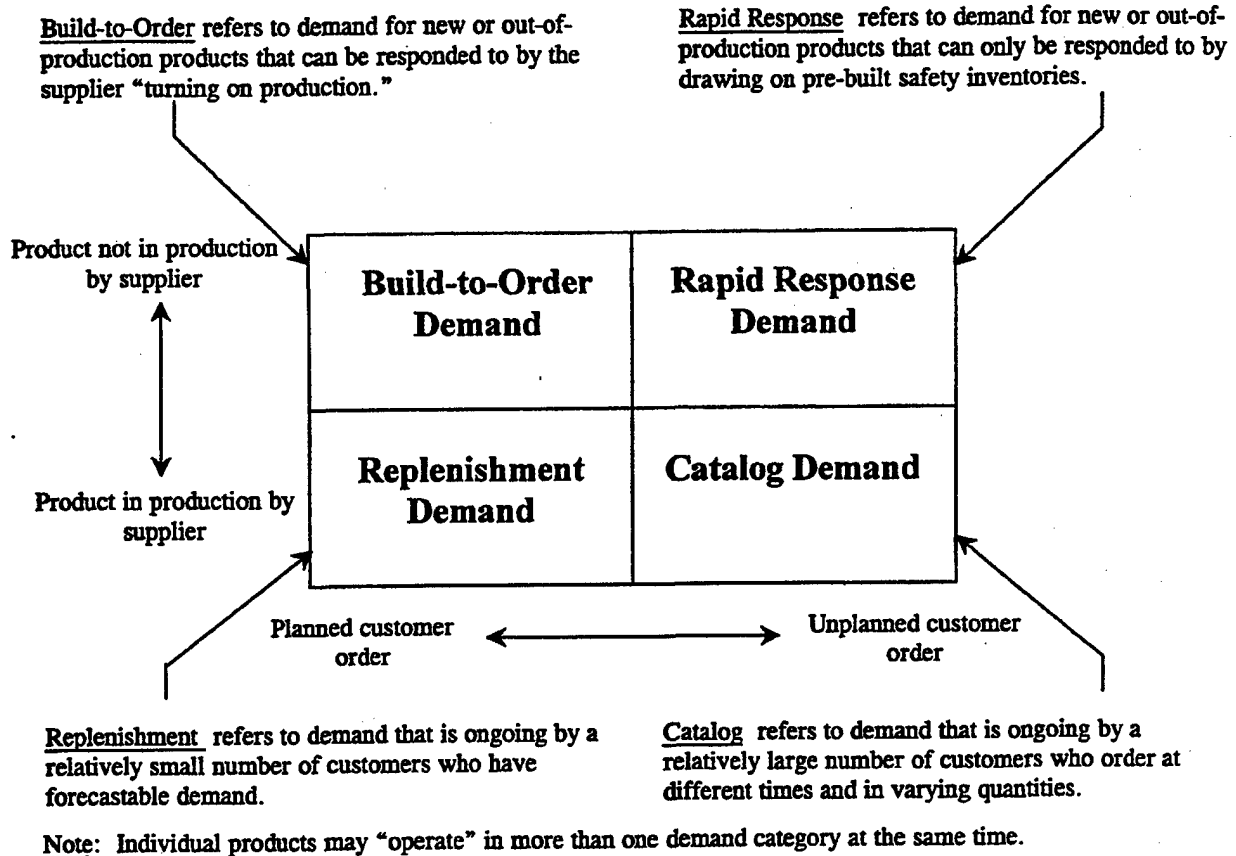
DCMC	Defense Contract Management Command
DISC	Defense Industrial Supply Center
DLSC	Defense Logistics Support Command
DSCC	Defense Supply Center Columbus (E-Electronics, C-Construction)
DSCR	Defense Supply Center Richmond
DSS	Defense Standard System
NIMMS	NAVAIR Industrial Material Management System
SAMMS	Standard Automated Materiel Management System
SUADPS	Shipboard Uniform Automatic Data Processing System
UADPS	Uniform Automatic Data Processing System

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## **Appendix H. Warstopper/Industrial Readiness Investment Guidelines**

1. The item or groups of items for which an investment is focused must be critical to the conduct or sustainment of combat operations. This is a judgment made by the industrial base program manager and could result from consultation with the Services.
2. Wartime surge and sustainment requirements shall be the basis for all investments. Generally, there should be high wartime in relation to peacetime demand. The Services provide time-phased requirements through the war reserve material process. In some cases requirements may have to be derived through analysis; these requirements shall be confirmed with the Services. Significant shortfalls in DLA's capability to meet the wartime requirements must exist to justify an investment.
3. The investment shall be focused on expanding, sustaining, or recreating industrial capability to support DLA's wartime sustainment responsibilities and not for procurement of war reserve inventories. Warstopper/Industrial Readiness investments must be closely scrutinized to ensure that they are not directed toward augmenting DLA's peacetime supply operations.
4. Investments will only be made for truly unique products and industrial capability. Analysis shall indicate that substitute items or alternate manufacturing processes do not exist.
5. Analysis shall indicate that the investment is the most cost- and mission-effective solution to ensuring the availability of the critical product or industrial capability.
6. Regulations, policy, or specific contract provisions sometimes cause industrial shortfalls. Consideration should be given to seeking relief from the aforementioned items prior to considering an industrial investment.
7. Opportunities exist for DLA to make industrial investments that would significantly reduce the level of war reserve material inventory the Services are required to carry. In those cases it must clearly be more cost effective for DLA to make the investment than for the Services to carry full war reserve material inventory levels.
8. Investments involving the purchase and storage of finished inventory will only be made as a last resort. The Agency continues to stress inventory reduction as a key objective. The cases where end item investments are most appropriate usually involve limited shelf life where the contractor can rotate the inventory to perpetually extend the life of the investment.

## Appendix I. Purchasing Environments





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## **Appendix J. Report Distribution**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition, Technology, and Logistics  
Deputy Under Secretary of Defense (Acquisition Reform)  
Deputy Under Secretary of Defense (Logistics)  
Director, Defense Logistics Studies Information Exchange  
Director, Defense Procurement  
Under Secretary of Defense (Comptroller)  
Deputy Chief Financial Officer  
Deputy Comptroller (Program/Budget)

### **Department of the Army**

Auditor General, Department of the Army

### **Department of the Navy**

Assistant Secretary of the Navy (Financial Management and Comptroller)  
Auditor General, Department of the Navy

### **Department of the Air Force**

Assistant Secretary of the Air Force (Acquisition)  
Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Auditor General, Department of the Air Force  
Commander, Air Force Materiel Command  
Commander, Warner Robins Air Logistics Center

### **Other Defense Organizations**

Director, Defense Contract Audit Agency  
Director, Defense Logistics Agency

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## **Other Defense Organizations (Cont'd)**

Commander, Defense Supply Center Columbus  
Commander, Defense Supply Center Richmond  
Commander, Defense Supply Center Philadelphia  
Commander, Defense Contract Management Agency  
Commander, Defense Contract Management Agency, Hamilton Sundstrand  
Director, National Security Agency  
Inspector General, National Security Agency  
Inspector General, Defense Intelligence Agency

## **Non-Defense Federal Organizations**

Office of Management and Budget  
Technical Information Center, National Security and International Affairs Division,  
General Accounting Office  
Office of Federal Procurement Policy

Chairman and ranking minority member of each of the following congressional committees and subcommittees:

Senate Committee on Appropriations  
Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Subcommittee on Acquisition and Technology  
Senate Committee on Governmental Affairs  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Reform  
House Subcommittee on Government Management, Information and Technology,  
Committee on Government Reform and Oversight  
House Subcommittee on National Security, International Affairs, and Criminal Justice,  
Committee on Government Reform and Oversight

# Under Secretary of Defense for Acquisition, Technology, and Logistics Comments



## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

7 FEB 2000

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE  
ATTN: MR. PAUL J. GRANETTO

SUBJECT: Draft of a Proposed Audit Report SCF-1003.01

Thank you for the opportunity to review and comment on the Inspector General's Draft Audit Report, SCF-1003.01, "Spare Parts and Logistics Support Procured on a Virtual Prime Vendor Contract." The stated objective of the audit "was to determine whether DLA obtained the best value for its customers using a virtual prime vendor contract." Based on this objective and the absence of any data in the draft report associated with "before and after" service levels, we must non-concur with your stated conclusion "that the DLA virtual prime vendor contract with Hamilton Standard was not the most economical and effective purchasing strategy to obtain spare parts and logistics support." In fact, an independent business case review of the "before and after" performance conducted by KPMG indicated significant potential benefits. Ironically, within your draft report (pg. 20) you agree with the conclusion reached by KPMG. While there are certainly individual parts for which the current pricing is legitimately in question, such a broad conclusion is simply not supportable.

As such, we are deeply concerned the report makes overly broad assertions with little empirical data that reflects the nature of and rationale for virtual prime vendor business arrangements. While it certainly is true that one size does not fit all circumstances, the report fails to document the full business case. Broad conclusions about isolated pricing issues should not be made at the expense of overall improved customer service. The report fails to recognize the improvements in parts availability and delivery times; the positive economic impact of capital asset availability (which correlates directly to the velocity in the supply pipeline); and, improvements in other critically relevant factors that drive the business case of virtual prime vendor efforts and this particular contract. In fact, as stated above, your report states you agree with most of the conclusions of the KPMG business case analysis. As projected in the KPMG analysis, despite isolated problems, the contract is still providing improved service to the customer over the previous, traditional, long-lead time contract(s) under which these parts and services were procured.

Additionally, the report fails to recognize that the cost of maintenance for prime vendor support is embedded in the unit prices, costs that under the old arrangements were borne by Government infrastructure. To assert that prices paid for parts have risen precipitously and are now unreasonable based simply on a comparison of incurred manufacturing and related costs from previous buys, ignores the value-added services, performance, and other factors that are central to the Virtual Prime Vendor business strategy. This is not to suggest that there are not specific items under the contract that are not appropriately priced, or that DLA and the Department does not need

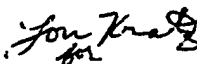



to be vigilant about pricing under such contracts. That is why DLA has worked aggressively with the suppliers to ensure that the questioned prices are either validated or renegotiated. In one case involving a part identified in your report, DLA has negotiated a reduction of some 20% on the current contract and an additional 20% to take effect when the option is renewed. The report also identifies other relevant and appropriate concerns, including multiple wholesale handling fees on Virtual Prime Vendor provided material. In this area, we have asked DUSD(L), DLA, and USD(C) to develop consistent guidelines for future contracts.

Furthermore, the fact that the contract in question was DLA's first Virtual Prime Vendor arrangement in this area is not insignificant. We fully recognize that as the Department re-engineers its business practices, there will be a certain degree of learning as we go. Mistakes have been and will continue to be made. Some suppliers will be more cooperative and collaborative than others. The Inspector General can help identify mistakes and work collaboratively with the components involved to identify solutions that help move us forward. This has been true in numerous circumstances in recent years and the report's recommendation, with which we do concur—that DLA pursue a Strategic Supplier Alliance with Hamilton-Sunstrand of the type now being pursued with Allied-Signal/Honeywell—is consistent with this productive and constructive approach. Unfortunately, the IG recommendation to work collaboratively with DLA and others to improve future acquisitions is at risk of being lost amid the report's other comments and recommendations. This includes the assertion that the customer would be better served if this contract were terminated and there was a return to the previous, traditional buying arrangements. Not only is such a suggestion at least implicitly in conflict with the recommendation for the Strategic Supplier Alliance, it also, as noted earlier, ignores the broader business case for moving forward, while correcting inconsistencies and inappropriate pricing on some items and seeking to create an environment for success.

Based on these internal inconsistencies and the lack of data to support the report's conclusions, we must non-concur. Specific comments on the report are attached and we urge you to give them careful and serious consideration as you prepare your final report.

We appreciate your efforts to date in this important area and are committed to continuing to work with you and your staff as we continue to move the Department's business practices forward in a manner that best serves our customers in the field.

  
for  
Allen W. Beckett  
Principal Assistant Deputy  
Under Secretary of Defense  
(Logistics and Materiel Readiness)

  
Stan Z. Soloway  
Deputy Under Secretary of  
Defense (Acquisition Reform)

Attachment:  
DUSD(AR)/DUSD(LMR) Comments

**DUSD(AR) & DUSD(LMR) COMMENTS ON DoD IG  
PROPOSED AUDIT REPORT SCF-1003.01**

**AUDIT RESULTS**

- **DoD IG REPORT:** We found that the DLA virtual prime vendor contract with Hamilton Sundstrand was not the most economical and effective purchasing strategy to obtain spare parts and logistics support.

**DUSD(AR) Position:** Non-Concur

**DISCUSSION:** Proposed Audit Report SCF-1003.01 fails to consider overall logistics service performance "before and after" the Virtual Prime Vendor (VPV) Contract. The proposed audit report contains no data related to material availability, fill rates, delivery response times, or maintenance efficiencies. Therefore, the analyses are inconclusive in relation to "effectivity" of logistics support. The issue of effectiveness comparison of VPV and non-VPV parts can only be considered inconclusive in that the cost of government expenditures necessary to achieve the reported issue of effectiveness for non-VPV parts is not considered. In fact, a recent review of logistics effectivity by DLA provides the following results for the VPV at NADEP Cherry Point: Parts availability up 30 percent; Prop assembly turn around time reduced 20 percent; Blade turn around time reduced 16.7 percent; and average material expenditure per blade was 64 percent less than programmed. WR-ALC is reporting that parts availability is no longer a limiting factor, and they have realized zero quality returns of VPV parts. Similarly, proposed Audit Report SCF-1003.01 does not contain any empirical data comparing VPV prices to actual prices prior to the VPV contract. Price analyses are based strictly upon a hypothetical "cost based" price for selected items. These prices fail to incorporate any added value associated with the logistics service. The proposed audit report contains no analyses of "fair and reasonable" prices for logistics services. In fact, for the 28 parts directly managed by Hamilton Sundstrand, the VPV contract report's price is \$163,982 less than the DoD IG estimated cost-based prices with Air Force and DLA cost recovery rates.

- **DoD IG REPORT:** DLA customers were charged about \$4.5 million, or 38 percent, more than necessary because of the method of support used by DLA.

**DUSD(AR) Position:** Non-Concur

**DISCUSSION:** Projected price comparisons contained in Proposed Audit Report SCF-1003.01 are based on estimated, hypothetical cost-based prices. Since there is no comparison to historical prices, it is impossible to judge whether the estimated cost-based price could be achieved, even if the DoD IG recommended acquisition strategy was pursued. Furthermore, under the initial VPV contract, both the Air Force and DLA added their cost recovery surcharge to the VPV items. Prices charged to the customer, therefore, were in part a function of Air Force cost recovery decisions, not the method of support. Since the VPV contract includes logistics services (such as demand forecasting, inventory management, and distribution) normally

recovered in the organic wholesaler surcharge, the customer was, in fact, charged twice for these services. The inappropriateness of employing the full wholesale surcharge was noted by DLA, and DLA initially applied a discounted surcharge rate of 7 percent (versus its wholesale cost recovery rate of 30.6 percent). This 7 percent surcharge is consistent with other contract management surcharges across the Department and GSA. DLA subsequently eliminated even this small 7 percent charge.

- DoD IG REPORT: DLA can also make better use of \$5.1 million of surge funding (warstopper and industrial readiness investment) provided to Hamilton Sundstrand.

DUSD(AR) Position: Non-Concur

DISCUSSION: Surge requirements, including warstopper and industrial readiness investment, continue to be a significant consideration to ensure DoD can meet its wartime mission. As DLA moves to greater reliance on industrial prime vendors, it is logical and necessary that DoD surge requirements be clearly articulated to its industrial partners. The DoD IG assertion that "DLA has established a dangerous precedent by providing surge funding to a contractor" is unsubstantiated by any empirical data and entirely inconsistent with DoD procurement practices. During major weapon system acquisition, DoD, as a matter of course, funds contractors to establish and maintain surge capability. The comparison of DoD-held inventory and VFW-held inventory is grossly misleading and inappropriate. First, because the VFW contract was in its initial stages, DLA does own and maintain some inventory. Second, in order to assess "better use of funds" the analysis must consider the entire surge requirement. Such an analysis was not conducted by the DoD IG. Finally, as the DoD IG notes, DLA is continuing to refine its surge requirements, consistent with forecasted demand and the total balance of industrial and government-held inventory. Consideration of "better use of funds" can best be determined following DLA's refinement and assessment of its "surge" acquisition policy.

- DoD IG REPORT: We calculate that Warner Robins can reduce total ownership costs of parts by at least \$17.1 million for FYs 2001 through 2006 procuring reparable parts using a different type contract.

DUSD(AR) Position: Partially concurs

DISCUSSION: The DoD IG finding that total ownership costs can be reduced by \$17.1 million by procuring reparable parts "using a different type contract" as summarized in the audit results is inconsistent with the findings presented on page 17 of the report that notes, "Warner Robins can reduce costs by at least \$17 million . . . by reducing the redundant management fees for wholesale level logistics support." This seemingly slight difference in terminology highlights the primary issue which is, as DoD moves to reliance on industry for logistics services as well as parts, wholesale surcharge fees should be appropriately adjusted. The DoD IG audit results focuses on the apparent overhead and handling fees of Hamilton Sundstrand and its subcontractors, yet totally ignores the

appropriateness of a 20 percent surcharge on VPV items by Warner Robins.

In addition, the \$17 million estimate is based upon a cost-based pricing strategy for particular NSNs. As previously noted, this analysis ignores the value of the logistics services provided under the VPV contract and the empirical data associated with historically achieved prices for those items.

Finally, DUSD(AR) objects to the use of the term "total ownership costs" by the DoD IG. Total ownership costs are used to refer to the life cycle costs of DoD weapon systems. By its nature, the VPV contract is related to a few subsystems associated with a weapons platform. Within that context, the DoD IG report presents no analyses of the total ownership costs of the affected platforms, limits its analyses to a 5-year period, and makes no attempt to consider costs other than estimated cost-based prices and apparent surcharges. In fact, an independent business case analyses conducted by KPMG estimates an \$18 million savings over the same period. Within the DoD IG report, the DoD IG states, "Although we agree with most of the conclusions reached by KPMG." Clearly, this apparent dichotomy must be rationalized.

DUSD(AR) does concur that, in general, VPV contracting approaches can be improved. Clearly, any initial effort, like the Hamilton Sundstrand VPV contract, affords the Department an opportunity to learn lessons for future applications. DUSD(AR) notes DLA's progress in adapting the VPV contract to incorporate those lessons and the pending development of a strategic alliance partnership.

- DoD IG REPORT: We calculate that DLA and the Air Force can reduce total ownership costs for their customers by at least \$29.4 million (includes Warner Robins savings) during FYs 2001 through 2006, by jointly negotiating a strategic supplier alliance with Hamilton Sundstrand that uses a tailored purchasing strategy.

DUSD(AR) Position: Partially concurs

DISCUSSION: DUSD(AR) concurs with and appreciates the DoD IG endorsement of ongoing DLA and DUSD(AR) efforts to establish a strategic supplier alliance with Hamilton Sundstrand. DUSD(AR) also concurs and agrees that VPV contracts should be tailored to the unique DoD needs and market structure of a particular set of items. DUSD(AR) non-concurs with the supposition that such a tailored strategy necessarily includes cost-based pricing negotiations. DUSD(AR) suggests that each VPV effort should include an assessment of "fair and reasonable" prices for the contracted effort, consistent with Federal Acquisition Regulations.

#### RECOMMENDATIONS:

- DoD IG REPORT: We recommend that the Commander, Defense Supply Center Richmond, take immediate action to recover surge end items and funding from Hamilton Sundstrand.

DUSD(AR) Position: Non-Concur

**DISCUSSION:** Consideration of government funding of contractor surge under the VPV should be determined as a component of the ongoing strategic alliance effort.

- **DoD IG REPORT:** *...and require contracting officers to negotiate fair and reasonable prices for purchased parts that are based on economic order quantities.*

**DUSD(AR) Position:** Partially Concur

**DISCUSSION:** DUSD(AR) concurs with the DoD IG recommendation to require contracting officers to negotiate fair and reasonable prices as a fundamental component of all acquisitions. DUSD(AR) non-concurs with the term "for purchased parts" in relation to the VPV contract, since the VPV effort is intended to procure logistics services. DUSD(AR) concurs with the use of economic order quantities; however, as noted above, the DoD IG report contains insufficient data to support an EOQ recommendation. Volume discounts on purchase prices are only one element of EOQ. Equally important elements, such as inventory carrying cost and the time value of money, were not considered. DUSD(AR) suggests that the prime contractor under a VPV arrangement assumes the responsibility for EOQ determinations based on forecasted demands, lead times, carrying costs, and time value of money. This responsibility is assumed as an integral component of the logistics support services of the VPV arrangement.

- **DoD IG REPORT:** *Contracting officers also need to determine the most economical and effective means to contract for purchased parts and use competitive breakout procedures when appropriate.*

**DUSD(AR) Position:** Partially Concur

**DISCUSSION:** DUSD(AR) fully concurs that contracting officers need to determine the most effective and economical means to contract for logistics services. Such effective means may include a variety of alternative strategies, such as direct purchase, competitive repurchase, corporate contracts, VPV, DVD, and strategic alliances. DUSD(AR) objects to singling out the identification of competitive breakout procedures as an example strategy. All potential strategies should be used only when they are appropriate.

- **DoD IG REPORT:** *We recommend that the Commander, Warner Robins Air Logistics Center, require contracting officers to negotiate prices for repairable parts that do not exceed the fair and reasonable prices identified in this report.*

**DUSD(AR) Position:** Non-Concur

**DISCUSSION:** DUSD(AR) appreciates the DoD IG's effort to estimate cost-based prices. These serve as a benchmark for potential negotiations. DUSD(AR) non-concurs with the recommendation because the estimated cost-based prices ignore realized historical prices and the legitimate price of value-added services contained within the contract. DUSD(AR) further non-concurs with the recommendation



because it presupposes the outcome of a negotiation. Numerous mitigating factors weigh into negotiated prices. Air Force contracting officers must be afforded the flexibility to negotiate best-value prices based on cost, urgency, schedule, and material availability.

- DoD IG REPORT: We recommend that the Deputy Under Secretary of Defense (Acquisition Reform), the Director, DLA, and the Commander, Warner Robins Air Logistics Center, establish a team to negotiate a strategic alliance with Hamilton Sundstrand modeled after the Allied Signal strategic alliance.

DUSD(AR) Position: Concur

# Air Force Comments



Office Of The Assistant Secretary

DEPARTMENT OF THE AIR FORCE  
WASHINGTON, DC

24 Feb 2000

**MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING  
OFFICE OF THE INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE**

**FROM: SAF/FM**

**SUBJECT: Spare Parts and Logistics Support Procured on a Virtual Prime Vendor Contract  
(DoD(IG) Project No. 8CF-1003.01, 23 Nov 99)**

This is in reply to your memorandum requesting the Assistant Secretary of the Air Force (Financial Management and Comptroller) provide Air Force comments on the subject report.

The Air Force partially concurs with the draft audit report. Detailed comments are attached.

A handwritten signature in cursive script, reading "John Nethery".

**JOHN J. NETHERY  
Acting Assistant Secretary  
Of the Air Force  
(Financial Management and  
Comptroller)**

**Attachment:  
Detailed Air Force Comments**

**DETAILED AIR FORCE COMMENTS  
ON  
DoD DRAFT AUDIT ON SPARE PARTS AND LOGISTICS SUPPORT PROCURED ON  
A  
VIRTUAL PRIME VENDOR CONTRACT  
(PROJECT NO: SCF-1003.01)**

**Recommendation.** We recommend that the Commander, Defense Supply Center Richmond take immediate action to recover surge and items and funding from Hamilton Sandstrand.

**Management Comments:** Recommend DLA address this issue.

**Recommendation:** And require contracting officers to negotiate fair and reasonable prices for purchased parts that are based on economic order quantities. Contracting officers also need to determine the most economical and effective means to contract for purchased parts and use competitive breakout procedures when appropriate.

**Management Comments:** Partially concur. The goal of the Air Force is to provide the best support at the best price. We concur that the prices have not been validated as fair and reasonable. However, price alone is not the only issue. The contract had improved, in terms of delivery and parts availability. Air Force recommends the validation of fair and reasonable pricing with delivery requirements.

**Recommendation.** We recommend that the Commander, Warner Robins Air Logistics Center, require contracting officers to negotiate prices for reparable parts that do not exceed the fair and reasonable prices identified in the report.

**Management Comments:** Concur in principle. However, Air Force prefers to address this matter by developing an IPT to jointly work the issue of price, with support issues, response time, etc. Estimated completion date for establishing an IPT and completing the review is 30 September 00.

**Recommendation.** We recommend that the Deputy Under Secretary of Defense (Acquisition Reform); the Director, DLA; and the Commander, Warner Robins Air Logistics Center, establish a team to negotiate a strategic alliance with Hamilton Sandstrand modeled after the Allied Signal strategic alliance. DLA is pursuing agency-wide terms and conditions for corporate contracts with Allied Signal. This more efficient purchasing strategy will result in reductions in the cost of spare parts, decrease response times, and more accurate forecasting.

**Management Comments:** Concur. A letter is in coordination cycle requesting AFMC, DLA, and Warner Robins Air Logistics Center (as the team lead);

- a) Form a joint AF/DLA/Contractor IPT
- b) Develop a brief to be given by DLA and Air Force on an acquisition strategy to SAF/AQ, AF/IL, and DLSC/CC, NLT 10 Mar 00.
- c) Complete the strategic alliance/partnership with a new contract that is agreeable to all parties NLT 30 Sep 00.

**Cost Savings:** Any cost savings comments will be deferred to DLA.

# Defense Logistics Agency Comments



IN REPLY  
REFER TO DLSC-P

**DEFENSE LOGISTICS AGENCY**  
HEADQUARTERS  
8725 JOHN J. KINGMAN ROAD, SUITE 2533  
FT. BELVOIR, VIRGINIA 22060-6221

FEB -7 2000

MEMORANDUM FOR DIRECTOR, CONTRACT MANAGEMENT DIRECTORATE,  
DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: Audit Report on Spare Parts and Logistics Support Procured on a Virtual Prime Vendor (VPV) Contract (Project Nos. 8CF-1003.01 and 8CF-1003.02)

I am forwarding the Defense Logistics Agency's response for subject audits for your consideration. The C-130 VPV contract is the prototype effort to help move the Agency and DoD from a traditional parts management business to a more integrated logistics support structure. As with any prototype effort, not every aspect of this effort has been a success. Within the context of the current acquisition reform and logistics environment, however, DLA's analysis shows improved parts availability, zero returns due to quality, elimination of most local procurement buy-arounds, increased maintenance production, and enhanced customer-vendor communication. Coupled with the projected overall savings and a shift of formally held DoD inventory to supplier managed inventory and integrated logistics, the VPV program shows exciting promise as we shift to commercial practices.

The blade heater represents only 1 of 1,600 parts within the VPV market basket of parts. As such, the DoDIG should consider the overall program and potential savings. It is difficult to compare traditional cost analysis (unit cost for parts only as the DoDIG has done) with commercial pricing methods for supply chain management efforts. Any analysis of VPV must include an assessment of the overall contractor cost to manage and store a part and the savings achieved by reducing the Government logistics infrastructure.

The lessons learned on this prototype VPV effort represent the underpinnings of future VPV arrangements. The success of this type of innovative contractual vehicle will provide better, faster, and more economical ways of doing business in the 21<sup>st</sup> century.

HENRY T. GLISSON  
Lieutenant General, USA  
Director

Attachments:

1. Response to Project No. 8CF-1003.01
2. Response to Project No. 8CF-1003.02

Federal Recycling Program



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**SUBJECT:** Comments on Draft Audit Report, Office of the Inspector General, DoD, Project No. 8CF-1003.01, November 23, 1999, Spare Parts and Logistics Support Procured on a Virtual Prime Vendor Contract

**Finding 1:** The DLA virtual prime vendor contract with Hamilton Sundstrand was not the most economical and effective purchasing strategy to obtain spare parts and logistics support. This condition existed because:

- a) Hamilton Sundstrand's dealer (used to procure, manage, and stock purchased parts) did not always obtain the best available prices or procure economic order quantities.
- b) The parts procured were primarily military specific, so there was no virtual inventory of commercial assets and depot stock to either satisfy DLA logistics response time goals or effectively reduce Government inventory or improve National Defense readiness.
- c) Warner Robins used the VPV contract to buy Air Force-managed reparable parts for wholesale inventory and continued to charge redundant management fees for logistics support.

As a result, DLA did not achieve the desired goals and benefits of improving logistics response times, reducing DoD inventory, improving Defense readiness, and reducing total ownership costs. DLA can put \$5.1 million of surge funding, provided to Hamilton Sundstrand for parts the contractor considers commercial, to a better use. We calculate that DLA and Warner Robins can jointly reduce user costs by at least \$29.4 million and lower logistics support costs from 52.9 percent to 14.9 percent for Fiscal Years 2001 through 2006 using a tailored purchasing strategy. The Director, DLA, and the Deputy Under Secretary of Defense (Acquisition Reform) have chartered a DoD/industry rapid improvement team that has developed a tailored purchasing strategy that offers a better alternative.

**DLA COMMENTS: Non-Concur.**

As background, this contract was awarded in October 1996. The driving impetus of the day was customer support and the need to reduce the overall cost of the DoD logistics system. Acquisition Reform, fueled by the Federal Acquisition Streamlining and Federal Acquisition Reform Acts, was the enabler. The following Secretary of Defense Acquisition Reform Memorandum dated March of 1994 underlined the overall focus of acquisition reform as:

"To provide incentives for acquisition personnel to innovate, while providing appropriate guidance and the benefit of lessons learned in the past."

The prototype VPV contract and the market basket pricing approach represent the cutting edge of acquisition reform initiatives (then and now) and, as such, have helped define guidance and policy associated with acquisition reform within DSCR, DLA, and DoD.

The Agency does recognize that pricing issues associated with prototype contracting methods have occurred, but the focus was and should be on the overall DOD supply chain benefits. DLA feels that the IG conclusions should more fairly recognize the total value of the Virtual Prime Vendor concept for the C-130 rather than focus on individual item prices. C-130 is a commercial approach to help move the Agency from traditional parts management business to a more integrated logistics support structure. In the context of the current acquisition reform and logistics environment, DLA has moved to adopt better, faster, and more economical ways of doing business despite a long term reduction in the acquisition and logistics workforces. VPV represents just this type of initiative with the warfighter/combat readiness as the focal point of commercial practice implementation.

While VPV implementation has not been as smooth or as quick as would be desired, the Business Case Analysis completed by KPMG supported the DSCR business decision to continue with the Hamilton Sundstrand VPV contract in lieu of returning to traditional methods of support for the C-130 propeller system.

DLA *non-concurs* with the conclusion that we have not achieved desired goals and benefits of improving logistics response time. Our analysis of the program impact shows improved parts availability, zero returns due to quality, elimination of most local procurement buy-arounds, increased maintenance production, and enabled direct customer-vendor communication. Specifically:

**NADEP Cherry Point Impact:**

- Parts Availability up 30 percent (percent shipped in 8 days).
- Prop Assembly Turn-Around-Time (TAT) reduced from 110 days to 88 days (20 percent). Blade TAT reduced by 16.7 percent.
- Material Cost-Blade: Average Material Expenditure per Blade was 64 percent less than programmed.
- Quality: No G Condition returns since first quarter 1998.

**WR-ALC Impact:**

- Production: Parts are no longer a limiting factor.
- Quality: Zero quality returns for VPV supplied parts.

Finally, the "lessons learned" from this prototype project have been incorporated into this and follow-on VPV projects. The lessons learned include (but are not limited to) the following:

- Improved commercial pricing methodology which was incorporated into C-130 VPV option years and increased emphasis on the development of employee training and tools.
- Sharing of demand data and forecasting between DoD and Industry partners.
- Transition from stakeholder identification to partnership approach
- Business Case Analysis process improvements that have become the cornerstone of the VPV program
- Improved contract incentives and performance metrics.
- Vastly improved systems integration. (Contractor systems integration with DoD legacy systems)

The prototype VPV program is performing as it was designed. The overall projected savings, coupled with the shift of formally held DoD inventory to an integrated logistics support structure with supplier managed inventory is proving out the Business Case and underlining the DoD's shift to commercial practices. The lessons learned (outlined above), represent the underpinnings of future VPV arrangements and can only be seen as directional beacons for the future of acquisition reform.

**Finding 1a: Partially Concur.**

Hamilton Sundstrand's dealer, Derco, did not always obtain the best available prices or procure economic order quantities for items on this contract. However, this was impacted by initial demand data interface problems between the four parties involved (Derco, Hamm-Sundstrand, DSCR and Warner-Robins). Accordingly, economic order quantity buys could not, in many cases, be made. An additional complication, encountered during the first 2 years of the VPV contract, was that the Air Force/DLA stocking levels were not reduced. As such, restocking orders occurred in batch runs which greatly exceeded historical demand data. (Rather than rely on contractor stocking and demand management, maintaining dual inventory levels precluded EOQ buys, and parts availability was adversely affected). Excess inventory (identified in the KPMG Business Case Analysis of 23 July 1999) is now actively being reduced, and this issue is being rectified. In addition, Derco was required by Hamilton Sundstrand to use

certain approved suppliers (usually ones that met certain Hamilton Sundstrand quality assurance requirements and a common practice in industry). Many of the items on this contract had not been purchased for several years, and accurate demand data, necessary for the determination of the most economic purchasing strategy, was unavailable. As discussed before, the value of this initiative should not be evaluated at the unit price level. The benefits are achieved in the overall readiness of the C-130 propeller system and the reduction of the logistics infrastructure for the Government.

**Finding 1b: Non-Concur.**

The designation of parts as commercial items and the subsequent award under FAR Part 12 procedures are consistent with the Federal Acquisition Streamlining Act and OSD acquisition reform policy implementation letter dated 15 Mar 94. The commercial item designation is applicable as the C-130 VPV contract was representative of acquisition reform, consistent with governing policy, and validated by Hamilton-Standard demonstration of commercial sales for C-130 aircraft and parts.

The designation of the VPV C-130 initiative as military specific or commercial does not affect achievement of the program objectives to improve logistics support. Implementation of our original inventory reduction plan found that the attrition of Government inventory was minimal. DLA's current inventory reduction plan, which has been implemented, will eliminate remaining Government inventory over the next 5 years. The VPV program uses Direct Vendor Delivery (DVD) as a delivery process but is not considered a DVD-type contract, which as detailed in the audit report, carries a logistics response time goal of 20 days. This contract represents a "first time effort" (i.e. test) by DLA to use the concept of third party logistics support in order to move away from the traditional parts management business. Initially, performance under the contract did not meet all expectations due in part to the fact that implementation proved to be more difficult than anticipated during the first 2 years. Systems integration was the primary barrier and diminished forecasting capabilities for the more than 1,600 separate NSNs. This represents one of the significant "lessons learned" in executing this contract. Through the transfer of DLA inventory to contractor management, resolution of system integration, and improvements in the contractor's own forecasting capabilities substantial improvements have been made in reducing delivery times under this contract and thus improve maintenance production.

**Finding 1c: N/A.**

DLA is not in a position to comment on Air Force policy with regards to the Air Force decision to "maintain redundant management" or apply internal Air Force cost recovery charges. At the beginning of this contract, DLA did charge a 7 percent cost recovery rate to this VPV contract. In May 1999, the 7 percent charge was eliminated.

**ACTION OFFICER:** LCDR Jack Stem, USN, DLSC-P, 767-1425  
**REVIEW APPROVAL:** RADM D. H. Stone, SC, USN

**Recommendation 1:** Recommend that the Commander, Defense Supply Center Richmond (DSCR):

- a. Take immediate action to recover the surge end items from Hamilton Sundstrand and any surge funding not already spent by the contractor.
- b. Direct contracting officers to negotiate prices for purchased parts that are fair and reasonable, based on economic order quantities, and determine the most economical and effective means to contract for these parts including using competitive breakout procedures when appropriate.

**DLA COMMENTS:** Partially concur.

**Recommendation 1a:** DSCR has requested a DCMC audit of contractor purchased material utilizing surge funding. Upon audit completion, DLA and Air Force will determine appropriate material disposition. In conjunction with material disposition, DLA will review surge requirements to determine future funding requirements. There is a legitimate need for all future agreements with Hamilton Sundstrand to include an ability to surge in national emergencies.

**Recommendation 1b:** It is DLA policy and practice to negotiate fair and reasonable material and service prices. Established policy, dated July 1994, Defense Supply Center Acquisition Policy (DSCAP) 15.8, outlines rules and tools for conducting price analysis, conducting negotiations, and determining fair and reasonable prices. An evaluation by the DSCR contract review team of the C-130 VPV contract negotiation process established that the rules and tools outlined in existing policy were followed. The contracting officer negotiated the unit prices for these items based on a "market basket" approach which was consistent with the commercial contract designation. This approach consisted of a sampling technique focusing on the cost drivers (i.e. those items comprising 80 percent of the total value of the contract). While disagreement may follow over individual NSN pricing on this prototype "market basket" approach in a prototype VPV contract, the contracting officer followed policy and procedure in making a "fair and reasonable" price determination. Additionally, DSCR, (as a result of its own findings, the KPMG BCA and the DoDIG findings) has instituted an outlier management program that addresses parts pricing abnormalities.

**DISPOSITION:**

(X) Ongoing: Recommendation 1a, ECD: March 31, 2000

(X) Considered Complete: Recommendation 1b

**ACTION OFFICER:** LCDR Jack Stem, USN, DLSC-P, 767-1425

**REVIEW APPROVAL:** RADM D. H. Stone, SC, USN

**Recommendation 2:** Recommend that the Commander, Warner Robins Air Logistics Center direct contracting officers to negotiate prices for reparable parts that do not exceed the fair and reasonable prices determined in this report unless Hamilton Sundstrand provides cost or pricing data that supports the higher prices.

**DLA COMMENTS:** N/A

**DISPOSITION:**

( ) Ongoing: ECD:

( ) Considered Complete

**ACTION OFFICER:** LCDR Jack Stem, USN, DLSC-P, 767-1425

**REVIEW APPROVAL:** RADM D. H. Stone, SC, USN



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**Recommendation 3:** Recommend that the Deputy Under Secretary of Defense (Acquisition Reform); the Director, Defense Logistics Agency; and the Commander, Warner Robins Air Logistics Center, establish a team to negotiate a strategic alliance with Hamilton Sundstrand modeled after the Allied Signal strategic alliance. The strategic alliance should result in mutually advantageous pricing, decreased response times, more accurate forecasting, reduced inventory, and decreased administrative costs.

**DLA COMMENTS:** Concur.

In December 1999 and January 2000, DSCR conducted initial meetings with Hamilton-Sundstrand, Secretary of the Air Force Staff, and DLSC headquarters to establish the recommended Strategic Alliance and improve the current VPV process.

**DISPOSITION:**

☒ Ongoing. ECD: October, 2000 (potential exercise of next option date).

☐ Considered Complete

**ACTION OFFICER:** LCDR Jack Stern, USN, DLSC-P, 767-1425

**REVIEW APPROVAL:** RADM D. H. Stone, SC, USN

## **Audit Team Members**

The Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report.

Paul J. Granetto  
Terry L. McKinney  
Henry F. Kleinknecht  
Shawn L. James  
Sharon D. Vasquez  
Joseph P. Bucsko  
James C. Darrough  
Nicole A. Lukacs